

## THE LIMES ARABICUS PROJECT: THE 1985 CAMPAIGN

by

S. Thomas Parker

### Introduction

The Limes Arabicus Project seeks to gain an understanding of the historical development of the sector of the Roman frontier east of the Dead Sea between A.D. 300 and 550. The beginning of this period witnessed a dramatic military buildup in this region, including the erection of new fortifications, systematic repair of the regional road network, and the arrival of new military units (Fig. 1). For about two centuries the frontier (in Latin, *limes*) remained well fortified, but by the early 6th century there appears to have been a widespread abandonment of most of these frontier forts.<sup>1</sup> Therefore, the project seeks to answer two principal historical questions: What can account for the massive military buildup in this sector about A.D. 300? Why were most of these same fortifications abandoned about two centuries later?<sup>2</sup>

A four part program is being employed in order to answer these questions: 1) large scale excavation of the legionary fortress of el-Lejjūn (the largest military site in this sector), 2) limited soundings of several smaller fortifications, 3) intensive archaeological survey of the frontier zone, 4) a parallel survey of the desert fringe east of the frontier to learn about the nomadic tribes. Three of five planned campaigns have been conducted thus far, in 1980, 1982, and 1985.<sup>3</sup> Additional campaigns

are scheduled for 1987 and 1989.<sup>4</sup>

The 1985 campaign was conducted between June 8 and July 31, under a permit granted by the Department of Antiquities of Jordan. The project is sponsored by North Carolina State University and is affiliated with the American Center of Oriental Research (ACOR) in Amman. Principal funding for the 1985 season again was provided by the National Endowment for the Humanities. Additional funding was provided by the Dumbarton Oaks Center for Byzantine Studies, the National Geographic Society, the North Carolina State University Foundation, the NCSU Faculty Professional Development Fund, student contributions, and a number of private donors. The Department of Antiquities also provided important logistical assistance. The author is deeply grateful to all these organizations and individuals for their support. Special thanks are due Dr. 'Adnan Ḥadidi, Director of the Department of Antiquities, and Dr. David W. McCreery, Director of ACOR.

Senior staff in the field in 1985 included John Wilson Betlyon as numismatist and camp administrator, Vincent A. Clark as team leader of the desert survey and Semitic epigrapher, Patricia Crawford as paleo-botanist, Bert De Vries as architect/surveyor, Eric Green as photographer, Jennifer C. Groot as objects specialist, Denise Hoffman as draftsman, Frank L. Koucky

1. For a detailed examination of the Arabian frontier and its history, see S. Thomas Parker, *Romans and Saracens: A History of the Arabian Frontier*, ASOR Dissertation Series no. 6, Philadelphia, 1986.
2. S. Thomas Parker, *Archaeological Survey of the Limes Arabicus: A Preliminary Report*, *ADAJ* 21 (1976) 19-31; Parker, *Towards a History of the Limes Arabicus*, pp. 865-878 in W. S. Hansen and L. J. F. Keppie, eds. *Roman Frontier Studies 1979* (Oxford: British Archaeological Reports, 1980).

3. For the most detailed preliminary reports, cf. Parker, *Preliminary Report on the 1980 Season of the Central Limes Arabicus Project*, *BASOR* 247 (1982) 1-26; *Preliminary Report on the 1982 Season of the Central Limes Arabicus Project*, *BASOR Supplement No. 23* (1985) 1-34.
4. For briefer preliminary reports on the first two seasons, cf. *ADAJ* 25 (1981) 171-178; *ADAJ* 27 (1983) 213-230; *Archaeology* 37.5 (1984) 33-39.

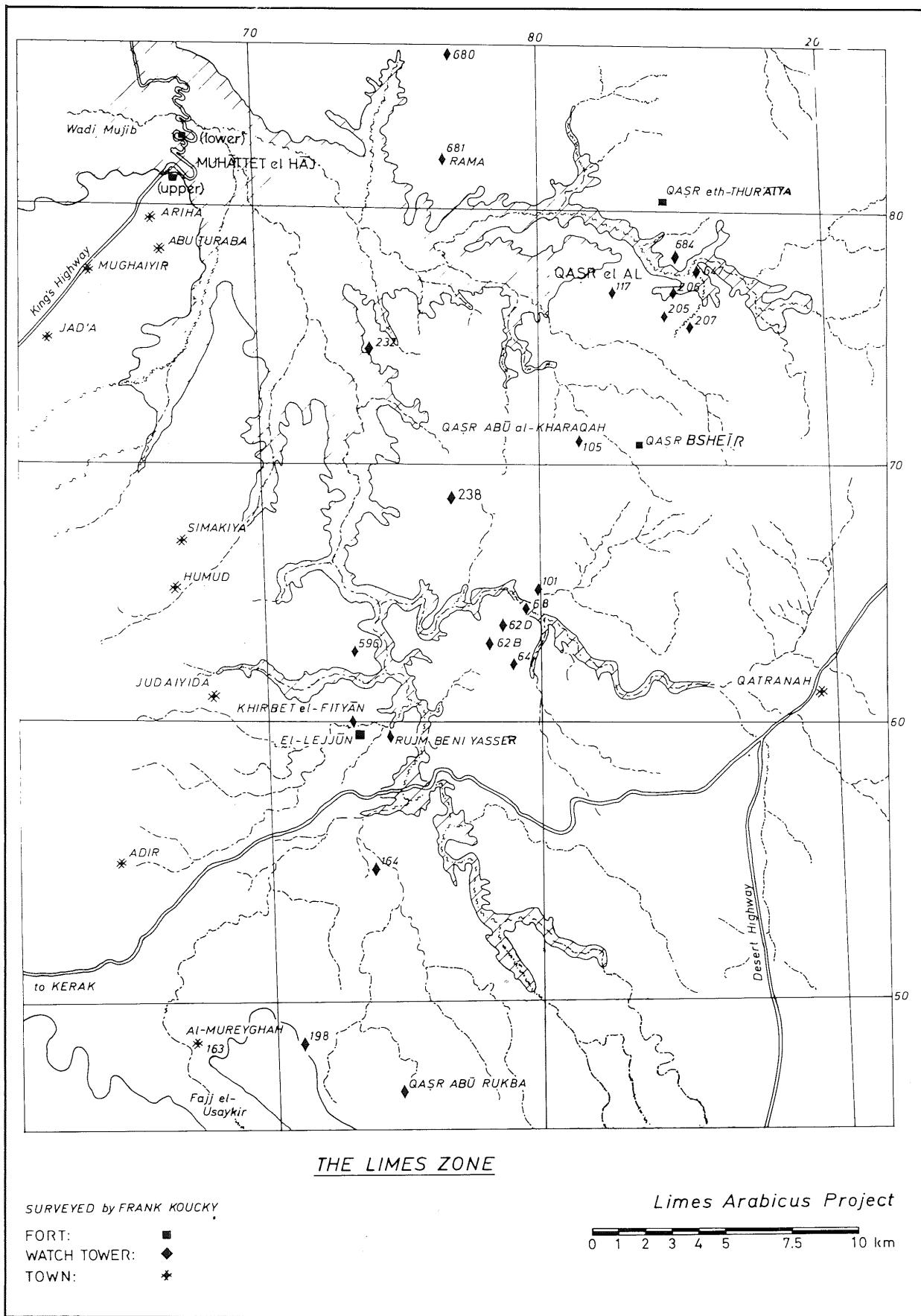


Fig. 1 Map of the frontier zone (*Limes Arabicus*) east of the Dead Sea.

as geologist and director of the survey, S. Thomas Parker as director, stratigrapher, and ceramicist, and Michael Toplyn as faunal analyst. Area supervisors were Anne E. Haeckl (Area A- the Lejjūn *principia*, Jennifer Groot (Areas B and K- the Lejjūn barracks), Andrea Lain (Area C - the Lejjūn fortifications), Vincent A. Clark (Area H- Qaṣr Bsheīr), Robert Schick (Area J- the Lejjūn church). Nabil Beqa'in again served as department representative. Square supervisors included Lynn Boone, Susan Downey, Julie Ferguson, Timothy Ferrell, Victoria Godwin, Nelson Harris, Eric Lapp, Kathleen Mitchell, Jane O'Brien, Janice Scilipoti, Patricia Seabolt, Michelle Stevens, Michael Strickland, Carolyn Tesari, Laurie Tiede, Anne Undeland, and Louise Zimmer. James Michener and Daniel Ritsema were assistant architect/surveyors. Victoria Godwin served as pottery and glass registrar.

The following is a summary of the results of the 1985 season in preliminary form. It describes the results obtained from excavation of the Lejjūn legionary fortress, soundings of the *castella* of Khirbet el-Fityān and Qaṣr Bsheīr, survey of the *limes* zone itself, and survey of the desert fringe east of the frontier. Finally, some preliminary historical conclusions are drawn from these and prior results.

### Excavation of the Lejjūn Legionary Fortress

#### A) Plan of the fortress and Stratigraphic Summary<sup>5</sup>

The Lejjūn fortress offers the rare opportunity to study a late Roman legionary fortress built *de novo* on a virgin site and not complicated by significant later occupation. The site has long been identified as Betthorus, base of *legio* IV *Martia*, *ca.*

A.D. 400 in the *Notitia Dignitatum*.<sup>6</sup> This identification is still unproven by the project but remains probable. The fortress (Fig. 2) measures 242 x 190 m. and covers an area of 4.6 ha. (*ca.* 11 acres). The fortress is protected by an enclosure wall 2.40 m. thick and studded with projecting towers. Each wall is pierced in the middle by a gate. Two major streets intersect at right angles at the *groma* or middle of the fortress: the *via praetoria* extends from the east gate to the *groma*, the *via principalis* runs from the north gate to the south gate. Near the intersection of the two streets at the *groma* is the *principia* or headquarters building. The entire eastern half of the fortress is devoted to blocks of barracks.

The objective in excavating Lejjūn is to learn its complete stratigraphic history, shed light on the garrison and its role in the military frontier, and recover data about the late Roman legion and *limitanei* (frontier forces) of the late Empire. The strategy has been to sample through excavation each principal component of the fortress: the headquarters building, barracks, fortifications, and a church. A major structure in the *vicus* has also been sounded. This proved to be a *mansio* or *caravanserai*.<sup>7</sup>

A major achievement of the 1985 season was the completion of a remeasured and relatively detailed overall plan by the project architects, superseding that of Domaszewski.<sup>8</sup>

#### B) Stratigraphic Summary

The first season in 1980 established a basic stratigraphic sequence based on associated numismatic and ceramic evidence. Results from 1982 permitted a slightly more refined stratigraphic picture.<sup>9</sup> Results from 1985 have not altered the major

5. For a more detailed overview of the fortress, cf. James Lander and S. Thomas Parker, *Legio IV Martia and the Legionary Camp at el-Lejjūn*, *Byzantinische Forschungen* 8 (1982) 185-210.

6. *N. D.* 37.22.

7. Parker, *BASOR Supplement* 23 (1985) 13-14, Fig. 13.

8. R. Brünnow and A. von Domaszewski, *Die Provincia Arabia*, 3 vols., Strasburg, 1904-09. Their descriptions and photographs, however, made before establishment of the Late Ottoman resettlement *ca.* 1900, are still valuable.

9. Parker, *BASOR Supplement* 23 (1985) 1-2.

periods of occupation (*ca.* A.D. 284-551) but did produce the first evidence of Umayyad (*ca.* 661-750) occupation, albeit rather minor and confined to a single area, the northwestern angle tower. Whether this material is sufficient to justify it as a new stratum, is as yet undecided. Otherwise, the stratigraphic framework is little changed:

Stratum	Period	Approximate Date
VII	Early Roman	63 B.C. - A.D. 135
Post Stratum VII Gap	Late Roman I-III	A.D. 135-284
VI	Late Roman IV	284-324
VB	Early Byzantine I	324-363
VA	Early Byzantine II	363-400
IV	Early Byzantine III-IV	400-502
III	Late Byzantine I-II	502-551
Post Stratum II	III Gap	551-1900
II	Late Ottoman	1900-1918
I	Modern	1918-

Stratified Early Roman (Nabataean) evidence has come from Rujm Beni Yaser, *ca.* 1.5 km. east of Lejjūn. The fortress itself has yielded very small amounts of Nabataean pottery, though never in a stratified context. This suggests that a small Nabataean site may have been obliterated completely by the subsequent massive legionary occupation.

### C) The Principia (Area A)

The headquarters building (63 x 52.50 m.), in its traditional location at the intersection of the *via praetoria* and *via principalis* (Fig. 3), contains the essential elements of the classic *principia*: 1) the principal entrance at the *groma* leading into an outer or public courtyard, 2) an inner, sacred courtyard or transverse basilical hall, and 3) a block of official rooms serving as administrative offices and containing the legionary shrine, or *aedes*. Work in 1985 continued in the 'L'-shaped area in the southwestern quadrant of the building, encompassing a portion of each major architectural element. This sector was also worked in both previous seasons. In addition, excavation was initiated in the *groma*

fronting the *principia*.

The major elements of the building's plan were elucidated in 1980 and 1982. Some further details were revealed this season. In 1985 the complete stratigraphic profile of the *principia* was obtained. Although its major walls appear to date from the primary stratum (VI) of fortress construction, the building was thoroughly remodelled in the late 4th century, perhaps following the A.D. 363 earthquake.

Excavation of a portion of the *groma* revealed a monumental gatehouse decorated with engaged columns, reminiscent of the legionary headquarters buildings at Lambaesis and Palmyra. The date of construction of this gatehouse is as yet undetermined. The large public courtyard was separated from the inner sacred courtyard by a series of pier and arches. At the southern end of the inner courtyard was the *tribunal* or elevated platform for officers to address small contingents of troops.

To the west of the courtyard and south of the *aedes*, in the official range of rooms, further excavation was conducted in a large room identified as an *officium*. Recovery of several phases of hearths, numerous fragments of cookingpots, and charred animal bones suggested considerable domestic activity in one corner of this room. Limited excavation of the narrow space between this room and the *aedes* to the north confirmed an earlier supposition that this was a corridor leading from the sacred courtyard to the west exterior of the building.

The interior of the *aedes* or legionary shrine was rebuilt in the late 4th century with a U-shaped platform extending around three sides. Access to the platform, supported by the barrel-vaulted substructures discovered in 1982, was provided by staircases in the southeast and (presumably) northeast corners of the room. Another staircase led up to the platform on the west wall that supported the legionary standard base. This staircase, the standard base, and the *aedes* entrance are all on an east-west axis with the entrance to the *principia*, the *groma*, the *via praetoria* and the *porta praetoria*, as is typical of Roman military architecture. There was no

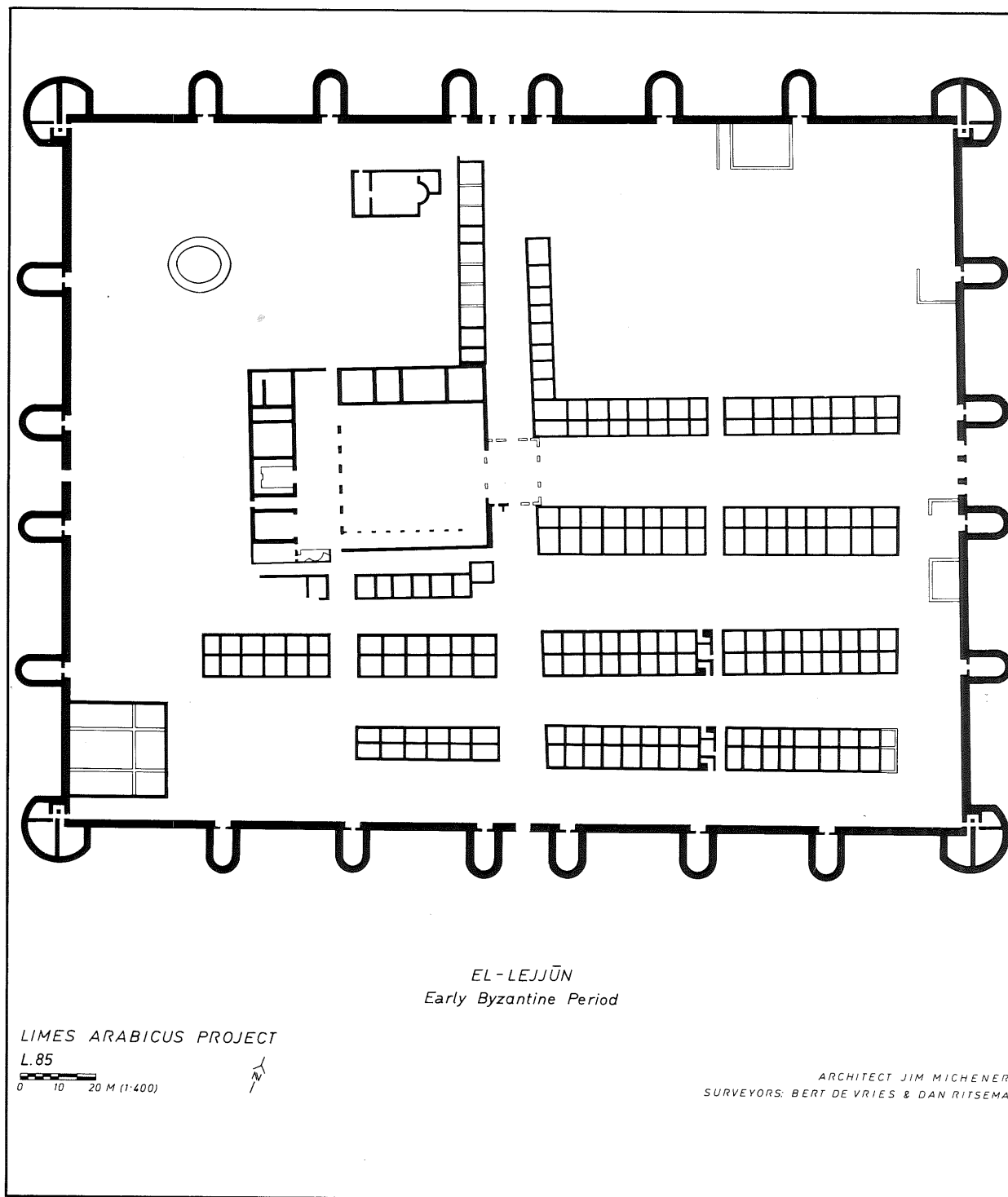


Fig. 2 Plan of el-Lejjūn in the Early Byzantine period.

evidence of an underground vault that might have served as the legionary treasury. But the handful of stray coins found at the entrances to the barrel vaults suggested that the vaults themselves perhaps served this purpose.

#### D) The Barracks (Area B and K)

Excavation continued in Area B, examining a set of rooms within one of four major barracks blocks visible on the surface (Fig. 5). The goals were to recover

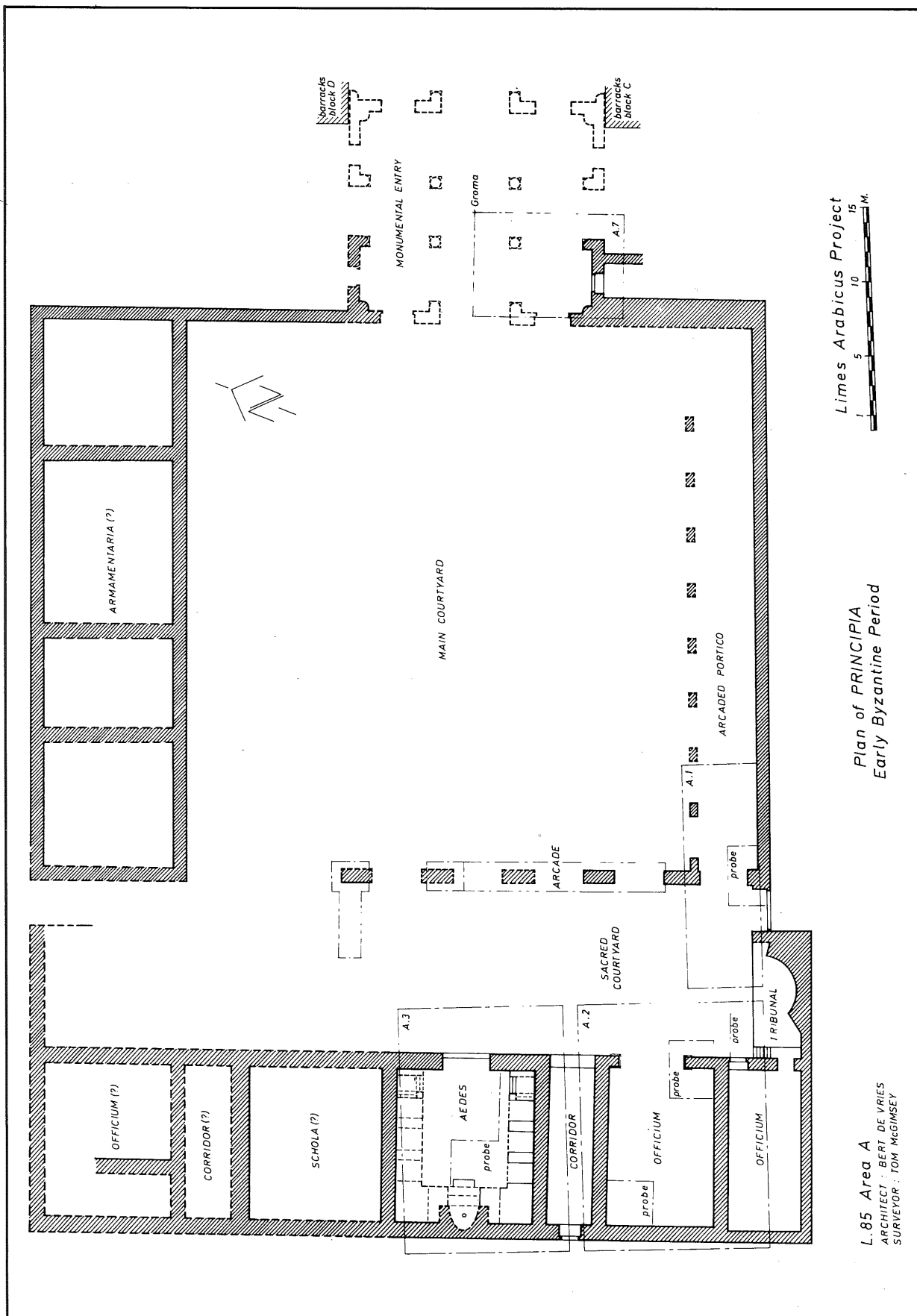


Fig. 3 Plan of the *principia* of el-Lejjūn.

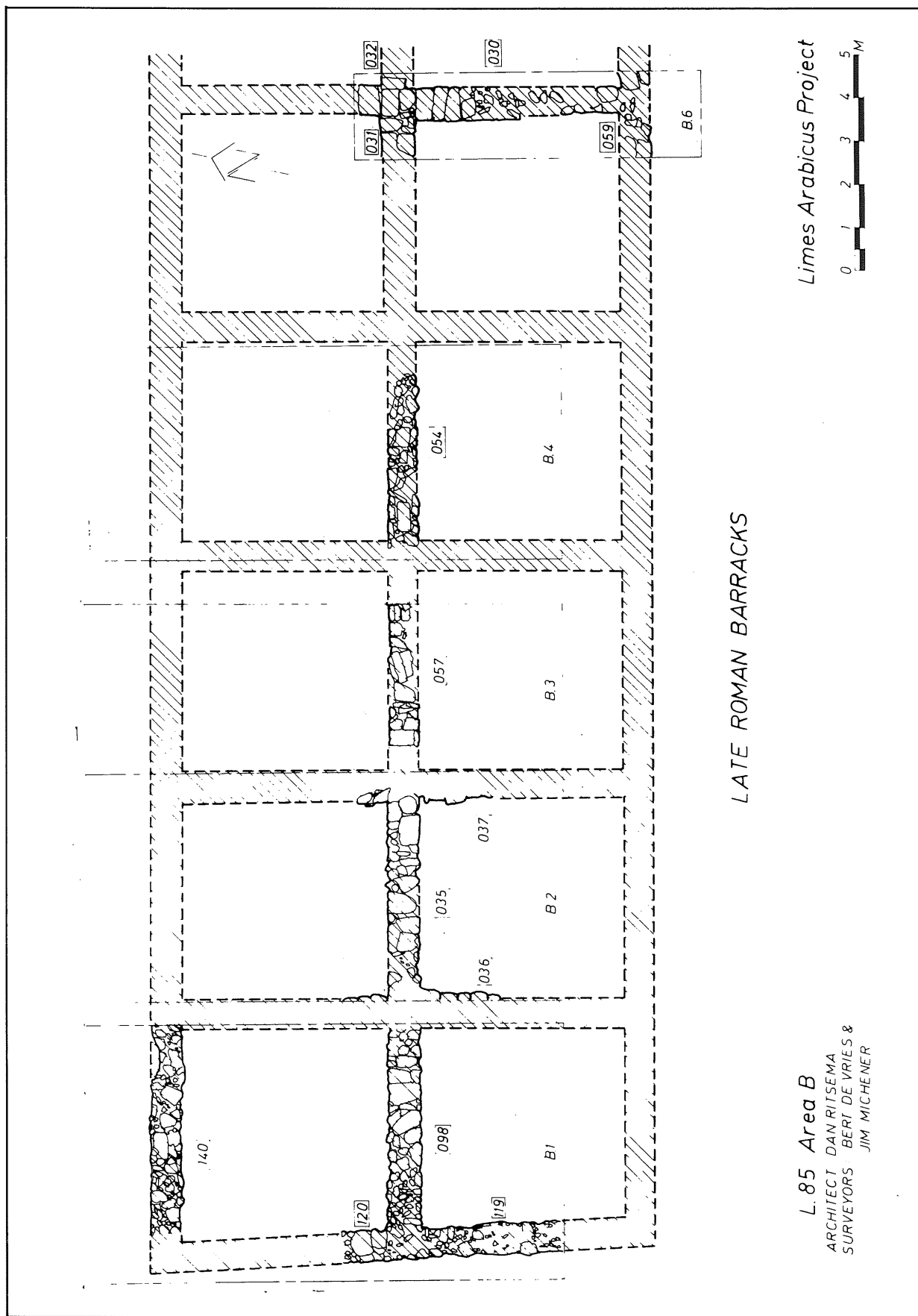


Fig. 4 Plan of the Late Roman barracks in Area B.





the plan of this sector of the block and recover cultural material relating to the legionary garrison, including evidence on the supposed transformation of the late Roman *limitanei* from full-time soldiers to a hereditary peasant militia.

In 1980 and 1982 four rooms and associated courtyards (B.1-4) at the western end of block B, south of the central spine wall, were excavated. B.2 and B.3 were completely excavated in 1982. The other two (B.1 and B.4) were finished this season. In addition, two additional trenches (B.5. and B.6) were laid out farther down the block to the east. B.5 (8x2 m.) was laid out to recover more of the plan of the primary Late Roman (Stratum VI) barracks found in 1982 (Fig. 4). A secondary goal was to section the alleyway between blocks A and B. B.6 (13 x 9m.) was laid out to investigate an anomaly in the plan. Detailed planning revealed an interruption in the continuous row of rooms about midway down this block and in the other three blocks. This feature was not noticed by Domaszewski. Clearance of the surface rock tumble revealed a passageway connecting the alleyway between A and B blocks with that between blocks B and C. A small room of uncertain purpose opened onto the passageway. The small room was flanked on both north and south by 'L'-shaped staircases entered from the two alleyways. These staircases gave access to the roof of the barracks, perhaps to facilitate roof-maintenance.

The evidence obtained offered further support for the stratigraphic framework for this barracks specifically and the fortress generally as elucidated in the previous seasons.<sup>10</sup>

Strata VI-VB (ca. 284-363) witnessed the erection and initial occupation of the garrison, probably punctuated by the earthquake of 363. A partial plan of this primary barracks was recovered in Area B (Fig. 4). Important new evidence about this period was obtained from two long trenches

(Area K) in the northeastern quadrant. This sector is mostly devoid of surface ruins and appears largely empty on both Domaszewski's plan and more recent aerial photographs. However, several fragments of walls appear on Domaszewski's plan and traces of a few wall lines were still discernable on the surface. Further, surface sherding of this quadrant produced a pottery sample that was over 70 % Late Roman in date (i.e. late 3rd and early 4th century). Thus two trenches were laid out to determine whether barracks existed here during Strata VI-VB.

One trench (K.1, 56m. x 1.5m.) ran south from near the north enclosure wall to the northern face of block D. Another trench, K.2 (14.5 x 2.5 m.), extended parallel to and just west of the eastern enclosure wall in an effort to locate the eastern terminus of these early barracks. The foundations of four barracks blocks, each separated from others by intervening alleys, were found just below the surface. The walls were associated with Late Roman pottery and three 4th century coins. The barrack rooms were identical in size to those of the same period in Area B. The plans appear to be essentially similar to the later Byzantine barracks of Strata VA-III. The major difference is that there were apparently eight barracks blocks in the eastern half of the fortress as originally built (Fig. 6). But following the demolition of the eight old barracks to their foundations in the late 4th century, only four new blocks were reconstructed. This implies a 50 % reduction in the size of the IV *Martia*.

#### E) *The Fortifications*

The project is sampling each component of the fortifications of the fortress: enclosure wall, 20 U-shaped interval towers, four semi-circular angle towers, and four gateways. In 1980 a section through the northern enclosure wall was conducted. Representative angle and interval towers were excavated in 1982.<sup>11</sup> Work conti-

10. Parker, *BASOR* 247 (1982) p. 2, 9-10.

11. For detailed plans and a section, cf. Parker,

*BASOR Supplement* no. 23, 1985, p. 11, Fig. 10.

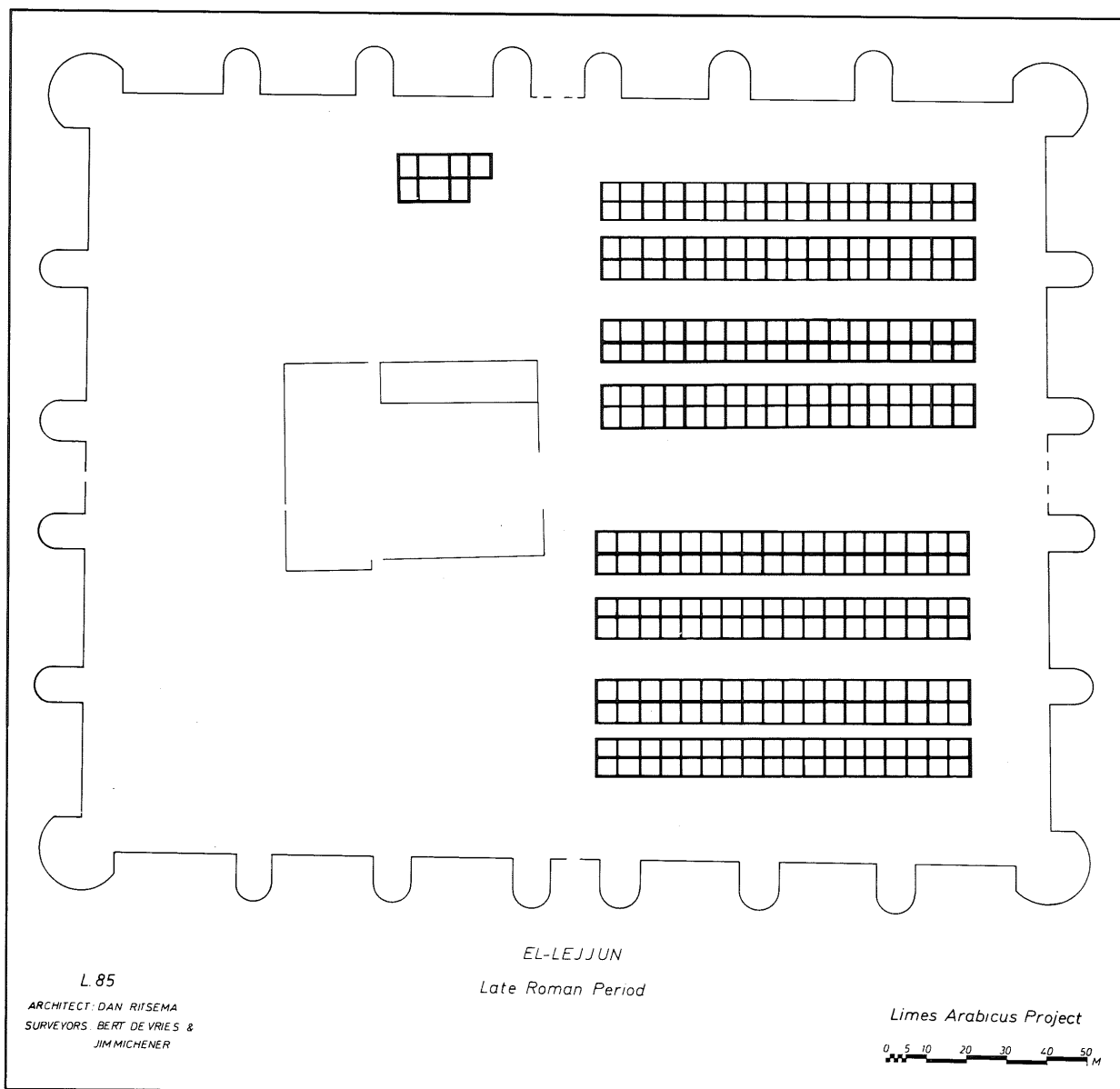


Fig. 6 Plan of el-Lejjūn in the Late Roman period.

nued in the northwest angle tower (number VI on Domaszewski's plan) this season. The major goals were to check the accuracy of Domaszewski's plans and sections and recover the occupational history of the tower. A gateway will be excavated in a future season.

The tower measures 19 m. in diameter (Fig. 7). The tower walls project 6 m. from the enclosure wall before curving to form a semi-circle. The interior of the tower is divided into four rooms. The small southeast room, completely cleared in 1982, contains the entrance into the tower from the fortress, a corridor providing access to the three other ground floor rooms,

and a staircase reaching to the upper stories (Fig. 8). This season the other three rooms of the first story were partially excavated. All were roofed by a series of parallel limestone arches that carried oblong roofing slabs. Several of the arches had fallen with their blocks still closely aligned. As in past seasons, bedouin burials from the late Islamic period were encountered in the rubble near the surface. Holes (for tethering animals?) were drilled in the springers of several arches in the larger northwest and northeast rooms, suggesting their use as stables. The roofs of these two rooms apparently collapsed in the 551 earthquake. But some limited evidence of

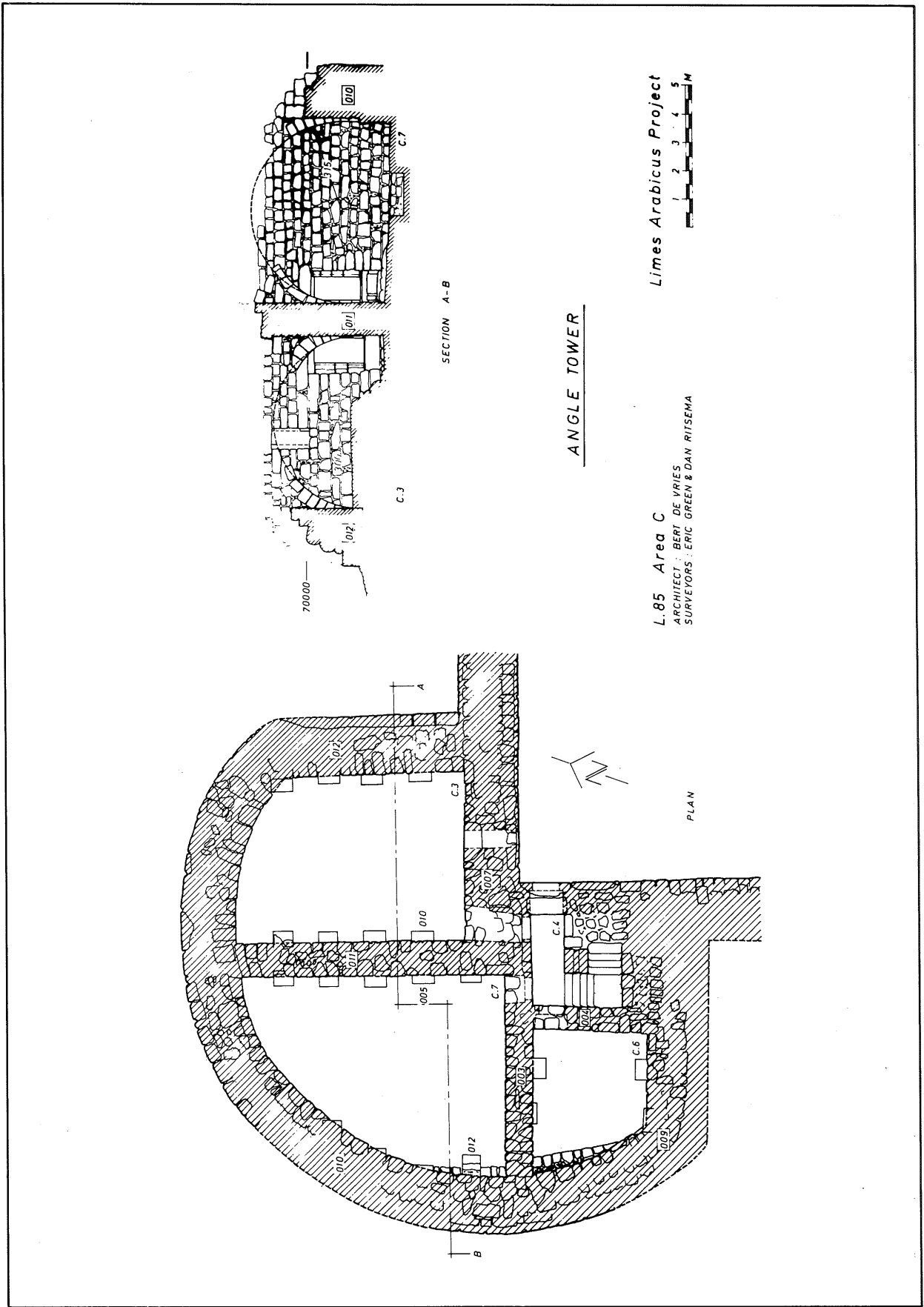


Fig. 7 Plan and section of the northwest angle tower of Lejjūn.

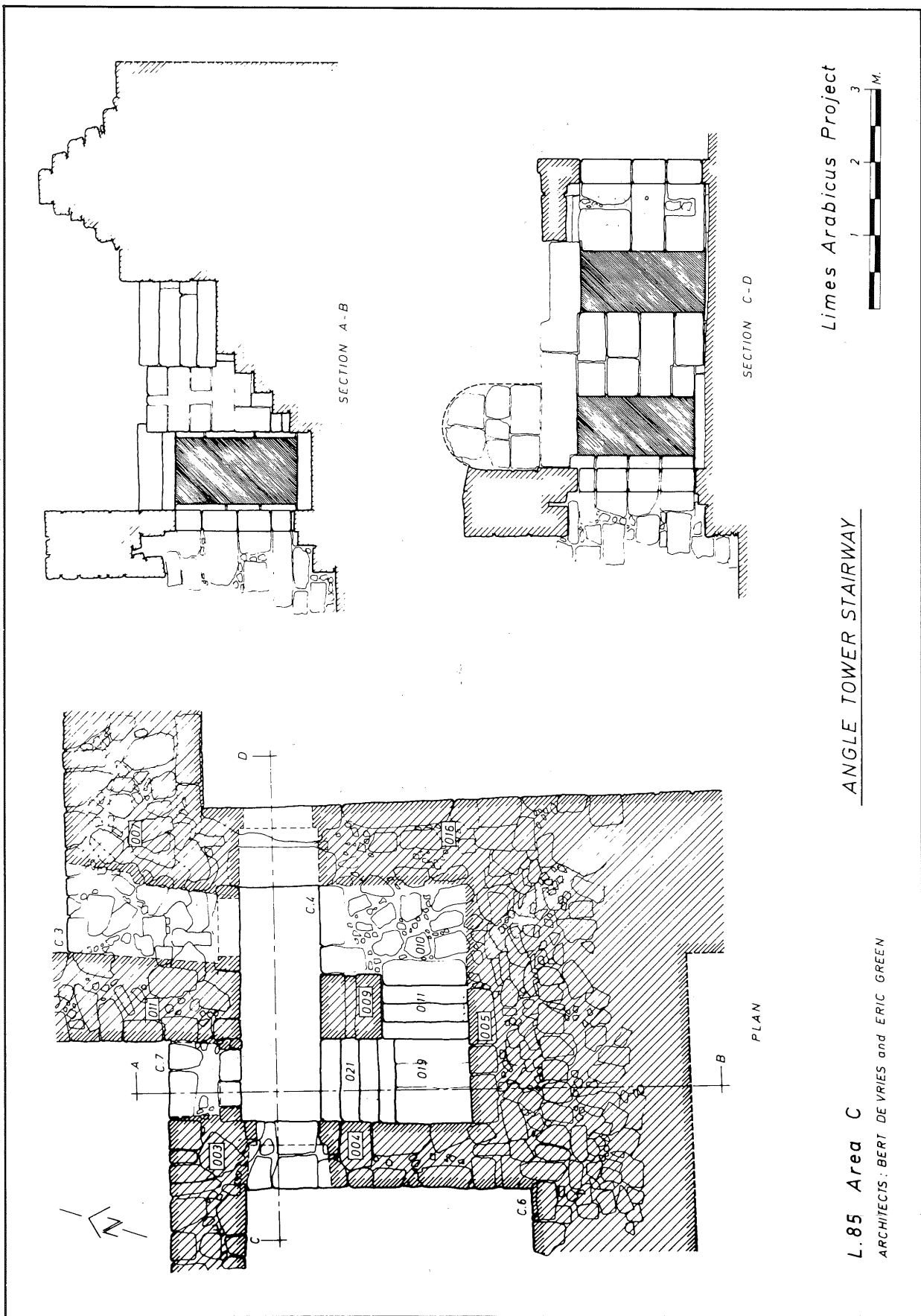


Fig. 8 Plan and section of the angle tower stairway.

Umayyad occupation (late 7th or early 8th century) was recovered near their still intact doorways. The much smaller southwest room, however, apparently remained roofed and was in use intermittently in the Islamic period, as evidenced by several domestic installations. Beneath this material was evidence of Byzantine and Late Roman occupation in these rooms. Foundations were reached only in a restricted probe in the northwest room, however, requiring further excavation next season.

The projecting angle tower fits neatly into the typology of Roman fortifications of the late 3rd and 4th century, as noted elsewhere.<sup>12</sup>

#### F) The Church

Among the buildings within the fortress is a rectangular structure in the northwest quadrant near the north gate with an apse on its eastern end (Fig. 9). This building, tentatively identified as a church from its surface architectural features, was investigated through a series of trenches (J. 1-6). The identity of the building as a church was confirmed. Other principal goals were to date the church, articulate its plan, and recover its occupational history. Since Diocletian launched the last great persecution of Christianity in the Empire and systematically purged Christians from the army, the church could not have been built when the fortress was constructed, *ca.* 300. But how much later was it erected? Its date provides evidence for the vexed problem of the conversion of the Roman army from paganism to Christianity.<sup>13</sup> Further, since the church was clearly secondary in date, what occupied this space originally? Because sacred places tend to remain sacred, even after a change in religion, would an earlier pagan structure of some sort be found beneath the church?

The church measures *ca.* 24 x 13 m., including the narthex on its western end. The church was basilical in plan, with the nave divided into three aisles by east-west

arches carried by columns. Somewhat surprisingly, the only entrance into the church from the exterior was via a door in the north wall of the narthex. The narthex was roofed by parallel limestone arches and slabs. A second door in the east wall of the narthex gave access into the nave. An additional room, probably a sacristy, is located on the northeast corner of the building. The church was erected in the late 5th century, based on pottery and coins from its foundations. A major refurbishing occurred in the early 6th century. This included laying new floors of oil shale pavers, rebuilding the doorways at a higher level, constructing a new chancel screen of carved oil shale, and adding a *synthronon*, or deacons' bench, in the apse. The sacristy was connected by a doorway with the north side aisle of the nave. The sacristy yielded considerable artifactual material apparently sealed by the 551 earthquake. This included several large storage jars and a ceramic multi-nozzled ring lamp. The ring lamp was incised with 'trees of life' surmounted by birds in full relief.

This church is small and appears to be quite poor and shoddy, even by the relatively modest standards of Transjordan. There was no evidence that mosaics, frescoes, or marble were used. Beneath the church were extensive wall foundations of an earlier structure, probably contemporary with the foundation of the fortress. But whether these foundations actually represent an earlier pagan sanctuary or some secular structure cannot yet be determined.

In any event, it seems clear that a significant portion of the garrison was Christianized by the late 5th century. How long paganism survived among the soldiers is problematic. There is evidence of deeply devout pagans in the local area. At Areopolis (modern Rabba, *ca.* 12 km. west of Lejjūn), pagans reportedly rioted *ca.* 385 when the imperial authorities attempted to close or destroy their temples.<sup>14</sup>

12. For detailed citations of close parallels from several parts of the Empire, *cf.* Parker, *Ibid.*, p. 13.

13. For a recent discussion, *cf.* R. MacMullen,

*Christianizing the Roman Empire*, New Haven, 1984, p. 41-44.

14. A. H. M. Jones, *The Late Roman Empire*, Oxford, 1964, p. 167, 943, with full references.

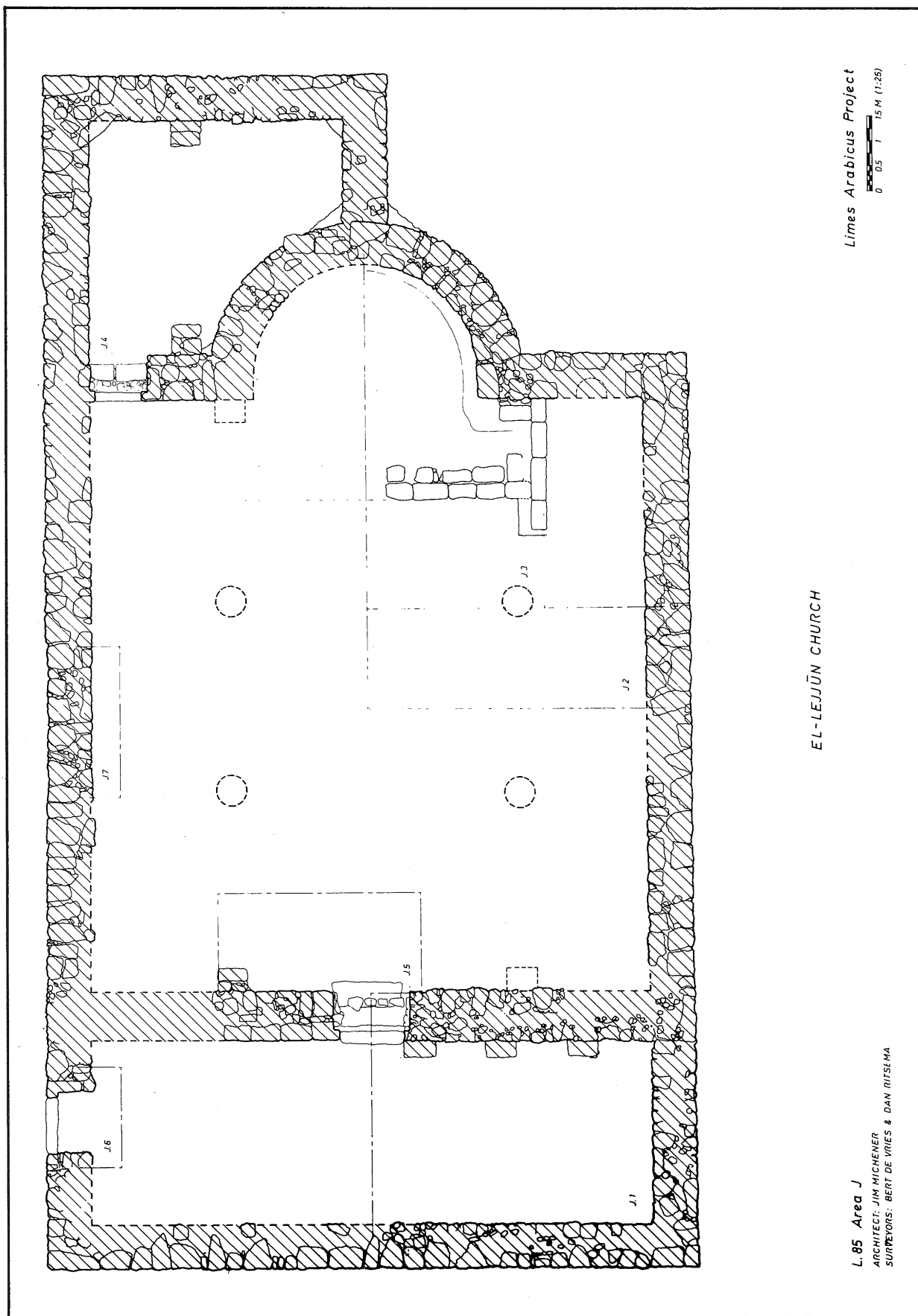


Fig. 9 Plan of the Byzantine church at el-Lejjūn.

## Soundings of Khirbet el-Fityan

The *castellum* of Khirbet el-Fityān is located 1.5 km. northwest of Lejjūn. It sits atop the steep northern bank of the Wadi Lejjūn and commands the best view of the surrounding topography in the entire region. It probably served as the central hub of a complex observation and communication network, tested in 1982.<sup>15</sup> Soundings of Fityān were conducted in 1980. These included excavation of the main gateway (D.1) and two adjacent barrack rooms (D.2-3).<sup>16</sup> These soundings established that the barracks were built directly on bedrock during Stratum VI (*ca.* 300) and that the *castellum* was abandoned by the end of the 5th century.

Although the barracks were now securely dated, the date of the enclosure wall of the fort remained undetermined. Earlier pottery, including Early Bronze, Iron Age, and Early Roman (Nabataean) had appeared in the soundings, though always mixed with later material. Thus a trench (D.4) was laid out this season to section the west wall of the fort and determine its date. Unfortunately, very little artifactual material appeared in the foundations of the wall. The few sherds recovered dated to the Iron Age. Therefore the possibility remains that the Romans, although clearing the enclosed area of the fort to bedrock before constructing their barracks, may have simply built their enclosure wall atop an earlier Moabite foundation.

## Soundings of Qaṣr Bsheir

Located 15 km. northeast of Lejjūn, Qaṣr Bsheir is one of the best preserved *castella* of the Roman Empire (Fig. 10). The fort, *ca.* 56 m. square, is a classic Diocletianic *quadriburgium* securely dated by its *in situ* Latin building inscription of 293-305 (Fig. 11).<sup>17</sup> The fort was presumably garrisoned by an auxiliary unit. Surface pottery suggested it was abandoned

by the end of the 5th century. Thus this fort, contemporary with Lejjūn, offers important evidence about the major military buildup in this sector. Two small soundings (H. 1-2) conducted in 1982 revealed something of its occupational history, including evidence of some limited Umayyad occupation from one probe. The discovery of apparent mangers in most ground floor rooms strongly suggested that Bsheir was designed for a cavalry unit.<sup>18</sup>

Much more extensive soundings were undertaken in 1985. The goals were to prepare a new and more detailed plan of the fort and to obtain artifactual material for comparison with the legionary fortress, recover a complete stratigraphic profile of the fort, and learn more about its garrison. Soundings were laid out in the courtyard, in a stable, and in a cistern within the courtyard. A structure in the *vicus* outside the fort was also investigated. In addition, a new plan of the *castellum* was drawn, superseding that of Domaszewski (Fig. 11).

The results affirmed the stratigraphic history outlined above, with the primary occupation in the 4th and 5th centuries. Most ground floor rooms probably served as stables, with accommodation for at least 69 horses or camels. The soldiers were housed in the second story of the rooms built against the enclosure wall. The room directly opposite the main gateway probably served as the *principia*. It lacks both managers and a second story, having instead a high ceiling over the ground floor and an anteroom that projects into the courtyard. Further evidence of Umayyad occupation also appeared, although again confined to limited areas.

## Survey of the Limes Zone

A substantial portion of the fortified frontier zone was surveyed in 1982, with 130 sites visited.<sup>19</sup> In 1985 additional

15. Parker, *BASOR Supplement* no. 23 (1985) p. 16-19.

16. Parker, *BASOR* 247 (1985) p. 11-16, Figs. 12-15.

17. *C.I.L.* 3.14149. Its ancient name was

*castra Praetorii Mobeni.*

18. Parker, *BASOR Supplement* no. 23 (1985) p. 15-16.

19. Parker, *BASOR Supplement* no. 23 (1985) p. 16-18.

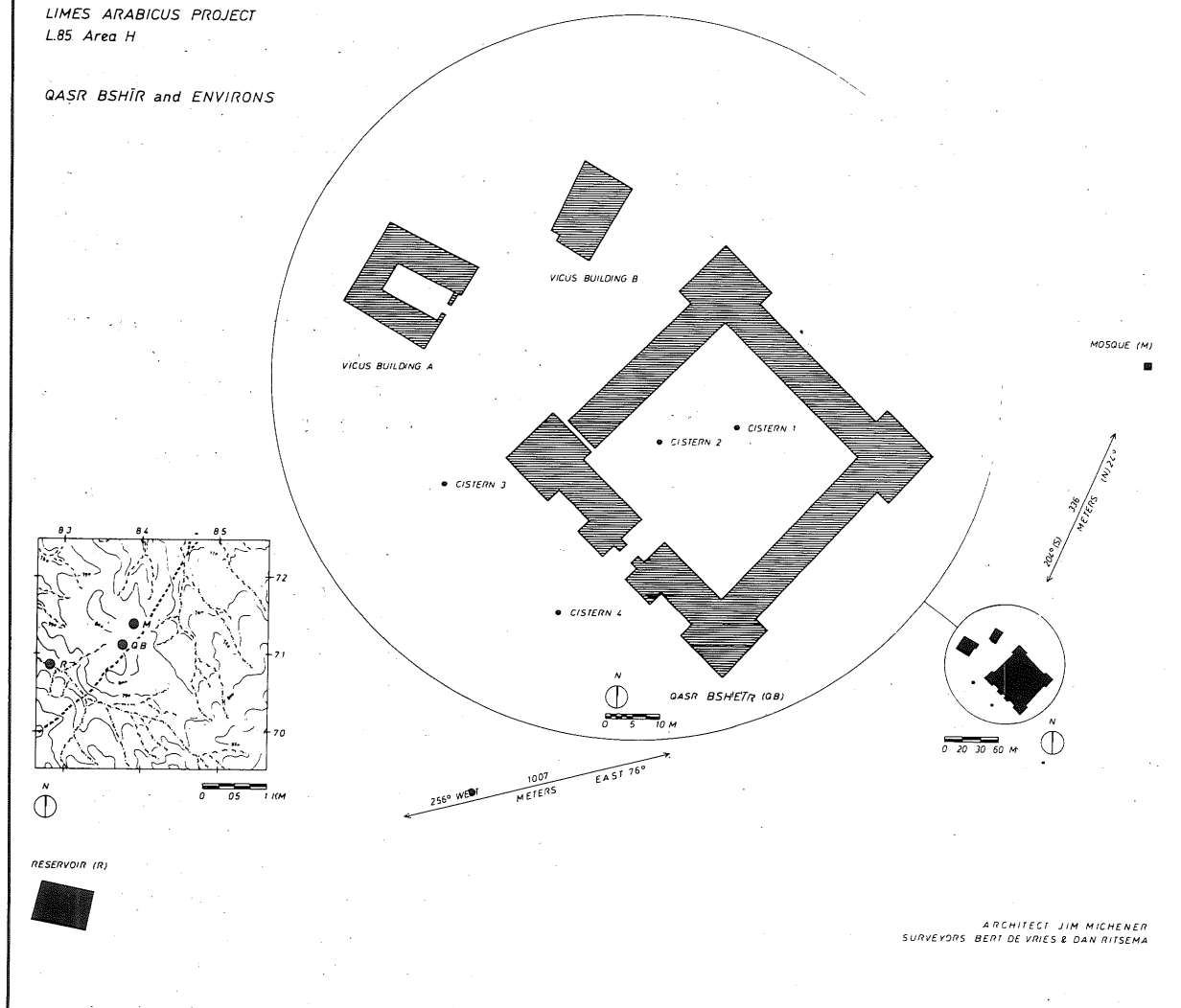


Fig. 10 Map of Qasr Bsheir and its environs.

sectors of both the desert fringe and the *limes* zone were surveyed. Although most of the *limes* zone within the region outlined above has been surveyed, a few gaps remain to be covered in the next season.

The surveyed region was generally bounded by the Desert Highway to the east, the Wadi as-Su'aydah to the north and the Wadi ad-Daba'ah to the west. Both wadis are part of the upper Mūjib catchment. A few sites were visited slightly beyond these parameters. This region, at the outer edge of the cultivated zone, served as the fortified frontier of three successive peoples: the Moabites, the Nabataeans, and the Romans. Each constructed a system of fortified posts that monitored movement of

nomadic tribes through the upper Wadi Mūjib and its tributaries. Interestingly, each group followed a somewhat different strategy, based on the deployment of their posts for observation and communication.

It appears on the basis of preliminary analyses of the data that the Nabataean frontier was advanced farthest east. This era also apparently witnessed the greatest number of sites occupied within the frontier zone. The outer edge of the Moabite and Roman frontier zones appear to have been located somewhat to the west. As pointed out long ago, many of the ubiquitous watchtowers were originally constructed in the Iron Age or Early Roman (Nabataean) periods and reused by the Romans.



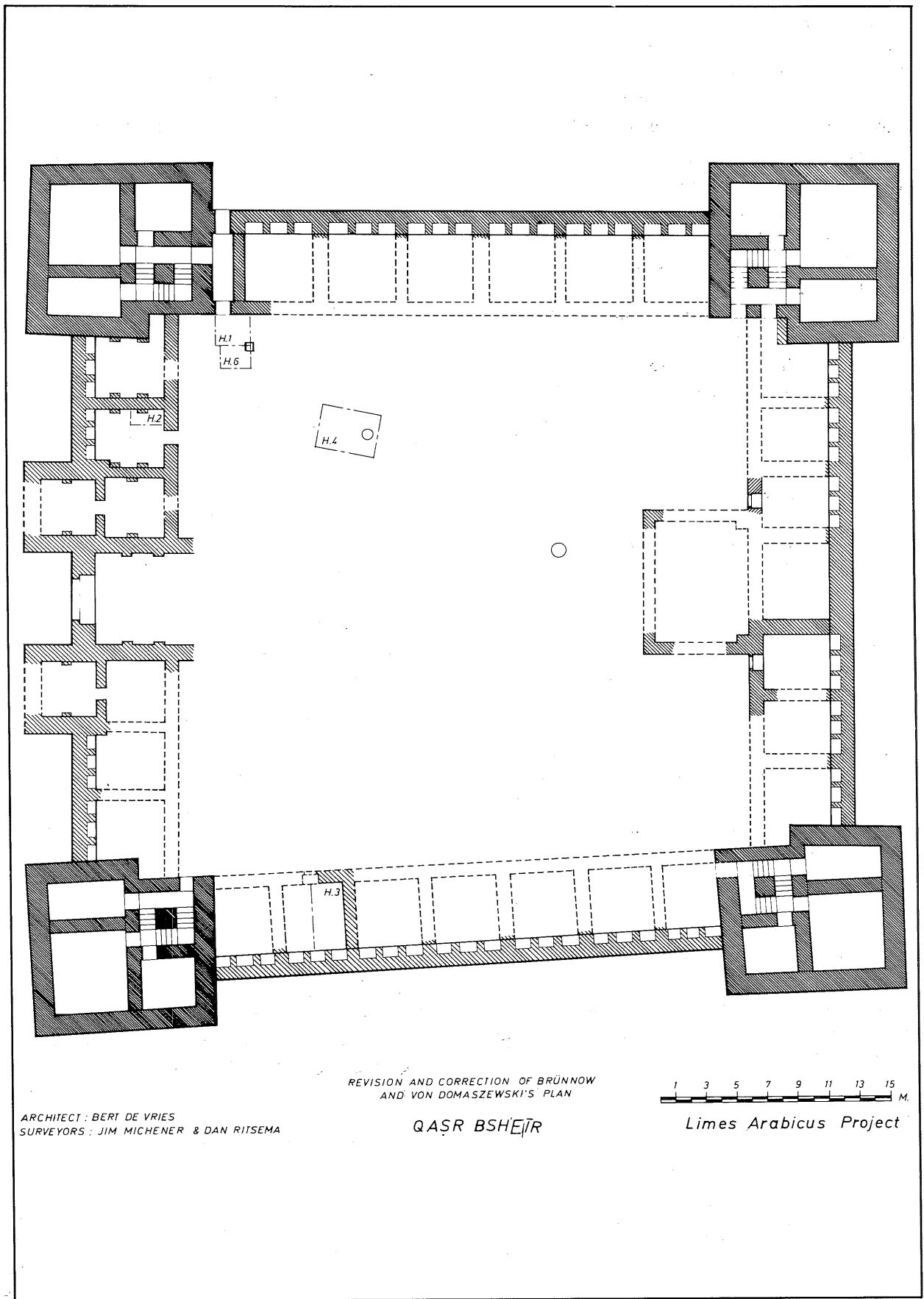


Fig. 11 Plan of Qaṣr Bshēīr.

Other towers, such as Qaşr Abū Rukba, appear to be Roman foundations (Fig. 12). The feasibility of rapid transmission of signals among the network of posts was demonstrated by a simulation in 1982.<sup>20</sup>

In sum, considerable evidence of occupation was found from the Paleolithic (to 35,000 B.C.), Chalcolithic/Early Bronze Age (4500-2200 B.C.), Iron Age (1200-539 B.C.), Early Roman (63 B.C.-A.D. 135), and Late Roman/Early Byzantine periods (A.D. 284-500). There was little or no evidence of occupation of the region in the Neolithic (8500-4500 B.C.), Middle and Late Bronze Ages (2200-1200 B.C.), and Late Byzantine and Islamic periods (A.D. 500-1918).

### The Desert Survey

Portions of the desert fringe up to 15 km. east of al-Qaṭrana were sampled in 1980. Some 50 sites were recorded.<sup>21</sup> New areas south of the Wadi al-Ḥafirah were surveyed in 1985, for a total of over 100 sites surveyed from the desert fringe. Most of the sites visited were simple campsites utilized in several periods, presumably by nomads or semi-nomads. There was considerable evidence of human activity in the Paleolithic period. Evidence of the Nabataean presence was also considerable. The Nabataeans manned several outposts overlooking the wadis, no doubt to monitor nomadic movements. One or two of these sites found near Qaṭrana in 1980 probably also served the Romans in this fashion. No additional such outlying watchposts were found in 1985, however, suggesting that this region may have simply been patrolled, either by regular Roman forces or perhaps by *foederati*.

### Historical Conclusions

The third season of the Limes Arabicus Project has provided more detailed evidence about the sector of the Roman fortified frontier east of the Dead Sea. Some

preliminary observations may be offered at this early stage. The military buildup in this sector *ca.* 300 may now be regarded as proven. It may be viewed as part and parcel of similar buildups along the Syrian frontier, where the *Strata Diocletiana* was established, and in northern Trans-jordan, where the northwestern outlet of the Wadi Sirḥān was refortified. The reasons for such a massive deployment of military and financial resources from an Empire only just recovering from the turmoil of the 3rd century are clear. Some reconstruction of the imperial defenses was mandated in any case after the Sassanid and Palmyrene invasions of the East. But the Saracene tribes posed another threat, in 290 requiring the presence of the Emperor Diocletian himself on a campaign in central Syria.

East of the Dead Sea, the evidence suggests that major nomadic pressure was being exerted through the Wadi el-Mūjib approaches to this frontier sector. Tribes of the Arabian peninsula, tempted by the weakened condition of the imperial defenses and suffering from the "bedouinization" of Arabia, migrated towards Roman territory. Unless controlled, they posed a threat to the local sedentary population.<sup>22</sup> The Roman response to this threat involved reconstruction of the regional road system to facilitate movement of troops and supplies, construction of new forts, reoccupation and refurbishing of older Moabite/Nabataean fortifications, and the introduction of new military forces.

The most important new evidence obtained this season was the discovery of the 50% reduction of the legion at Lejjūn by the late 4th century. The abandonment of some forts by the late 5th century was already known, but the reduction by half of the largest military unit in this sector less than a century after the Diocletianic buildup was not.

What could have accounted for this reduction? Two possible explanations immediately spring to mind. Zosimus (2.34)

20. Parker, *BASOR Supplement* no. 23 (1985) p. 18-19.

21. Parker, *BASOR* 247 (1982) p. 18-19.

22. For a recent discussion of the Arabs in the 4th century, see Irfan Shahīd, *Byzantium and the Arabs in the Fourth Century*, Washington, D.C., 1984.

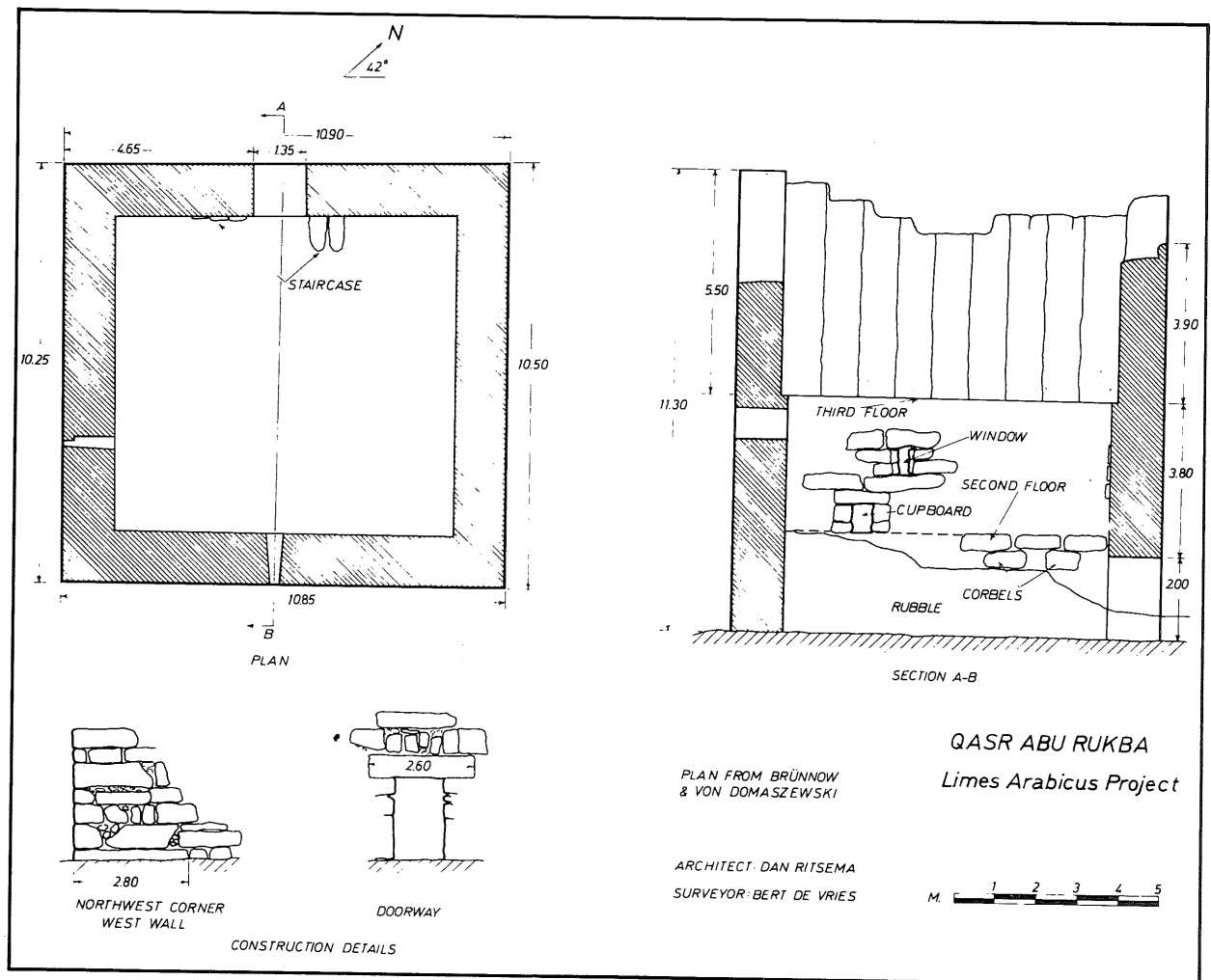


Fig. 12 Plan and section of Qasr Abū Rukba.

asserts that Constantine weakened the frontier forces (*limitanei*) in order to strengthen the mobile field army (*comitatenses*) kept behind the frontiers. It is possible that two cohorts of *legio IV Martia* were withdrawn from Lejjūn at this time, i.e., between 324 (when Constantine conquered the eastern half of the Empire by defeating Licinius) and 337. Another possibility is that half the legion may have been withdrawn for Julian's Persian expedition in 363 and never returned to Lejjūn. Unfortunately the literary sources, such as Ammianus Marcellinus, do not provide a detailed breakdown of Julian's expeditionary force to prove or disprove this suggestion. Other explanations are also possible. In any case, following the earthquake of 363 the four barracks (half the former

number) erected in the fortress remained in use throughout the remainder of the legionary occupation.

The argument that most fortifications in this sector were abandoned by the early 6th century was strengthened this season by new evidence. None of the surveyed military sites of the Roman *limes* zone yielded any Late Byzantine (i.e. 6th and early 7th century) pottery, as noted in previous seasons. The abandonments of those four forts excavated thus far appear to have occurred peaceably, implying the demobilization or transfer of the garrisons according to a definite imperial policy and confirming assertions in the literary evidence.<sup>23</sup> Primary responsibility for the defense of the southeastern frontier, from the Euphrates to the Red Sea, was transfer-

23. Procopius, *Anecdota* 24.12-14; *Bellum Persicum* 1.17.45-48.

red to the Ghassānids and their Arab *foederati*. The garrison at Lejjūn was probably demobilized *ca.* 530. Therefore the final two decades of its occupation probably reflect a squatter occupation of the fortress, perhaps by demobilized soldiers and

their families, ended by the 551 earthquake.

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