THE QASR KHARANA PROJECT, 1979*

by
Stephan Urice

Introduction

Qasr Kharana[1] (Fig. 1; Pl. I) is perhaps the best preserved but least well understood building of the late seventh/early eighth centuries C. E. in the Transjordan. It has been the subject of scholarly controversy ever since Gray Hill first published the site in 1896. Although Hill believed the qasr to be Crusader in origin (1896 : 34), most scholars (e.g., Jaussen and Savignac, Stern, Sauvaget) date its construction to the Umayyad period, ca. 661-747 C. E. Others, notably Creswell (1969 : 447-8), have thought it to be Sasanian. Again, recently, two scholars have published conflicting opinions as to the proper attribution of the qasr: Warren (1977) arguing a Sasanian, but Gaube (1977) an Umayyad, sponsorship. In order better to understand this remarkable monument, the writer organized the Qasr Kharana Project to research, survey, and excavate the site. This brief report summarizes the work of the Project in its three short field seasons of 1979.

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* The Qasr Kharana Project is affiliated with the American Schools of Oriental Research and works in cooperation with the Department of Antiquities of Jordan. The writer wishes to thank Dr. Adnan Hadidi, Director of the Department, for his enthusiastic support of the Project. Miss Nazmia Tawfiq of the Department provided every possible assistance. Thanks also are extended to Dr. Ghazi Bisheh who coördinated the work of the Project with the Department and who excavated with us for part of the August-September season. Funds for the Project have been provided through the American Schools of Oriental Research and by both the Department of Fine Arts and the Fogg Art Museum of Harvard University.

Particular appreciation is expressed for the advice and assistance provided by Dr. James A. Sauer, Director of the American Center of Oriental Research in Amman.

The Director of the Project was assisted in the field by Mr. Steven Ross, lately of Union Theological Seminary, who served more as co-director than as an "assistant". Whatever favorable results have been achieved by our excavations are largely due to Mr. Ross's insightful archaeological method, meticulously recorded drawings and field notes, and supportive wit.

Miss Sana Makhlouf of the Center for Middle Eastern Studies at Harvard University translated the Arabic summary for which the writer is grateful.

Finally, thanks are extended to John and Kathy Abizaid of Amman for hospitality *extraordinaire*.

1. There is no known literary reference to the site earlier than the nineteenth century C.E. (i.e., Hill 1896). Its name -- and therefore a proper transliteration -- is, thus, impossible to determine. For convenience only, the spelling used by Creswell (1969), without diacritical marks, is adopted here.

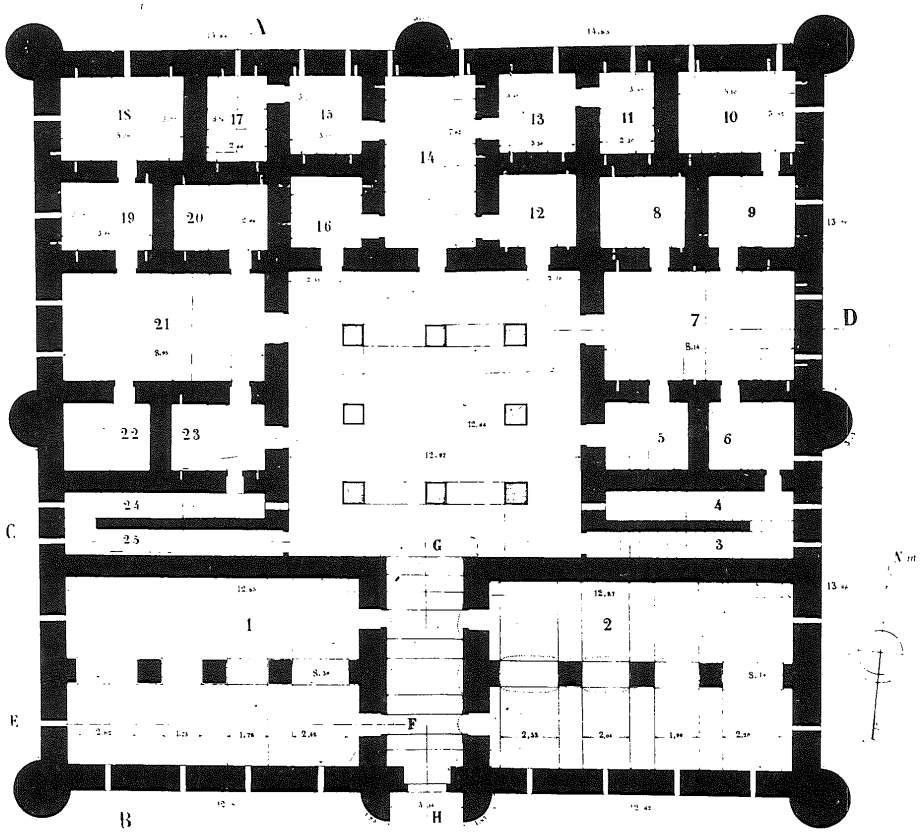


Fig. 1: Qasr Kharana, plan. Ground floor. (After Jaussen & Savignac)

Qasr Kharana: Site and Description

Qasr Kharana is located[2] on a gentle rise above the "Wadi al-Kharana" (a tributary of the great Wadi Sirhan drainage system) some 55 km. east of Amman. On a clear day, the village of Muwaqqar (35 km. to the west) is visible from the roof of Kharana.

Kharana is a two storey structure, approximately 35 m. square, whose excellent state of preservation is nothing short of miraculous. The qasr was not completed in antiquity: several rooms on the northern flank of the second storey were never vaulted. In recent years the Department of Antiquities has strengthened the fabric of the structure, cleared the rooms and courtyard of debris, and restored portions of fallen walls.

The plan of the qasr (Fig. , 1) is organized around a central courtyard, approached from the sole ground floor entry door on the south facade. On the ground floor, two large rooms occupy the southern flank, one opening on either side of the entry passage. These are often interpreted as stables but equally could be storerooms. The northern, eastern, and western flanks are filled by groups of rooms consisting of one large hall surrounded by four or five communicating smaller rooms. These room groups are discrete units, isolated one from an-

2. The exact coördinates of the qasr are variously published. Henry Field (1960 : 208) seemingly follows Musil's maps of 1907 and gives 31°44' N, 36°28' E. Carswell (1978 : 1060) publishes 31°42' N, 36°79' E.

other; communication between them is possible only via the courtyard. Staircases on the western and eastern sides of the courtyard ascend to the second storey and continue to the roof. On the second storey, the ground floor plan repeats itself with minor variations. Here, the room groups communicate one with another allowing a free circulation from room to room. A group of rooms consisting of one large hall with four adjoining side chambers is located above each of the ground floor "stables". A single hall, long the subject of scholarly speculation (cf., especially, Sauvaget 1947 : 127-8) and unique in its vaulting, decoration, and fenestration, is situated directly above the entry passage. The rooms in the extreme northwest and northeast corners of the second storey were not intended to be vaulted and originally were fitted with doorways from which temporary ladders would allow access to the ground below.

Certain rooms of the second storey are carefully outfitted with various decorative motifs and unique vaulting devices. Among these are series of engaged colonnettes, rosette friezes, and squinches supporting semidomes. These details of decoration and construction derive from eastern prototypes and contribute to the persistence in scholarly writings of a Sasanian attribution of the qasr.

A painted inscription (Pl.II), dated to the equivalent of 24 November 710 C. E. (Abbott 1946), in the main hall of the western flank of the second storey provides a *terminus ante quem* for construction of the qasr — or at least for one phase of its construction. A second *terminus ante quem* is provided by our accidental discovery of a group of pot sherds in the plaster flooring of the main eastern hall of the second storey. All of these sherds are typical Umayyad wares; one is painted.[3]

The Qasr Kharana Project, 1979

Introduction

In April and May 1979, surface surveys were conducted at the site and the qasr was measured in detail to verify the accuracy of the drawings published by Jaussen and Savignac (1922). In August-September and again in October-November, we excavated at the site.[4]

Surface survey and measurements

Within the confines of grids of 70 sq.m (subdivided into squares of 35 m) adjacent to the walls of the qasr, we collected surface ceramic finds. This collection, however, produced meagre results. The ground around the qasr appears to have been scraped clean, probably in conjunction with the recent restoration work.[5] South of the qasr, however, lining the two run-off channels that lead from the rise on which the qasr is sited to the wadi below, is a series of dumps. We assume that these contain debris removed from within and alongside the qasr. They are full of pot sherds. A large, ran-

3. The floor in which these were discovered has only one phase of surfacing which is original to the construction of the room.

4. Mr. Jesus Sagasti of the Spanish Archaeological Mission to Jordan served as architect for these two seasons of excavation.

5. Comparison of the state of the ground today with early photographs indicates that accumulated debris has been cleared from against the qasr walls and in their vicinity.

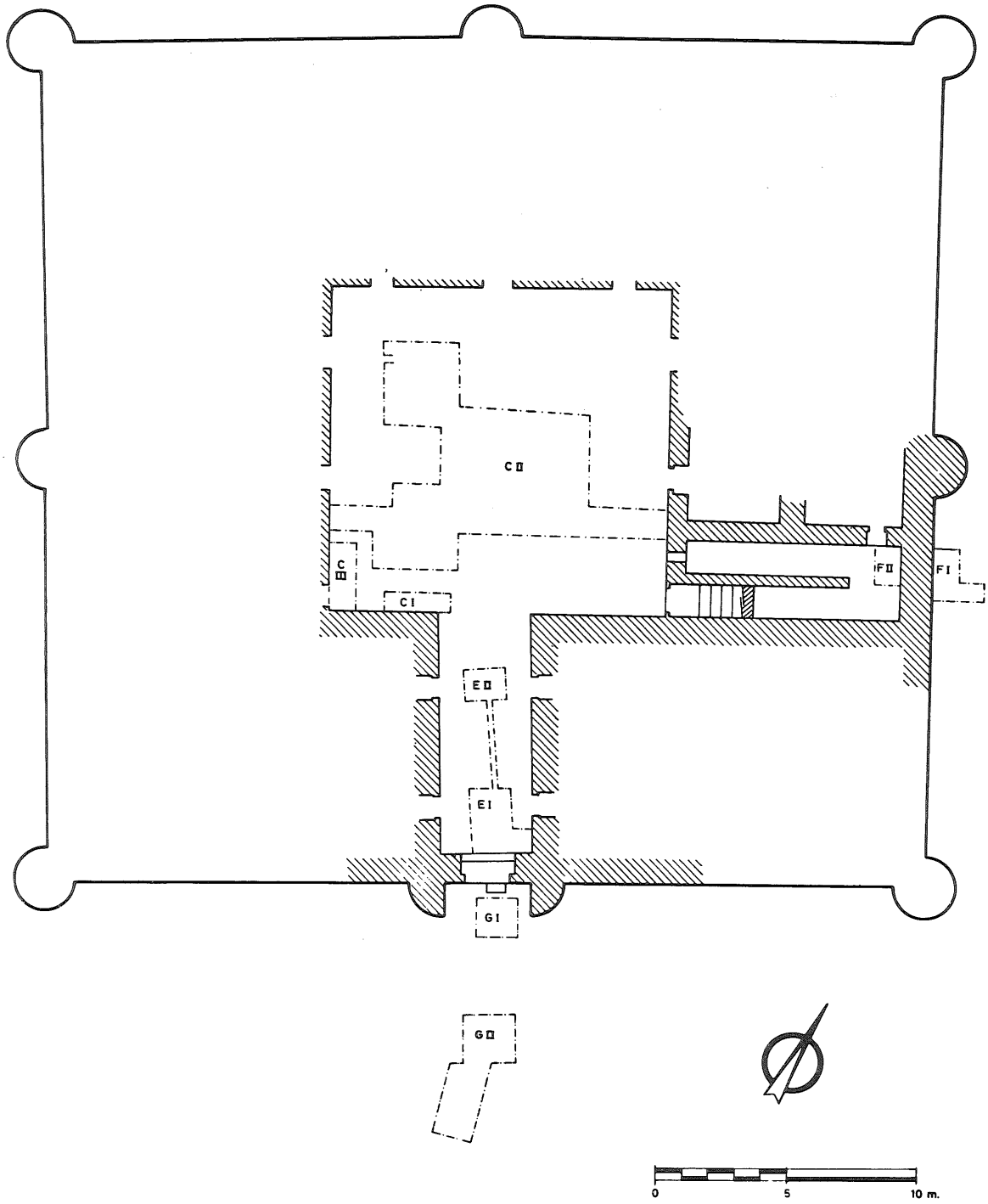


Fig. 2

QASR KHARANA
PLAN SHOWING AREAS EXCAVATED
1979

dom sample of sherds collected from these dumps has been analyzed.[6] The majority of the pottery is Umayyad but early and late Byzantine wares are also attested. A single late Roman and one much later luster ware sherd are also noted. The ceramics indicate that the principle period of occupation at Kharana occurred between the mid-seventh and mid-eighth centuries C.E.[7]

No indications of any out-buildings in the vicinity of the qasr were noticed during extensive searches. There is no evidence of cisterns in the environs of the site, nor of any damming of the wadi adjacent to the qasr. A series of modern *thamail* in the wadi however, indicate the practicality of obtaining water at the site, today, in this manner.[8] There is no reason to suspect that such *thamail* were not in use when the qasr was constructed and first occupied.

Our measurements[9] confirm the essential accuracy of the dimensions given on Jaussen and Savignac's drawings (1922). The regularity with which their plans are drawn, however, does not accurately record the orientation of rooms one to another. Virtually no room contains a 90° corner; nor does any room relate to an adjoining room at right angles. This suggests the necessity of producing new plans, to represent more accurately the alignment of the rooms and the irregularity with which the main walls of the qasr are laid out.

Excavations (Fig. 2)

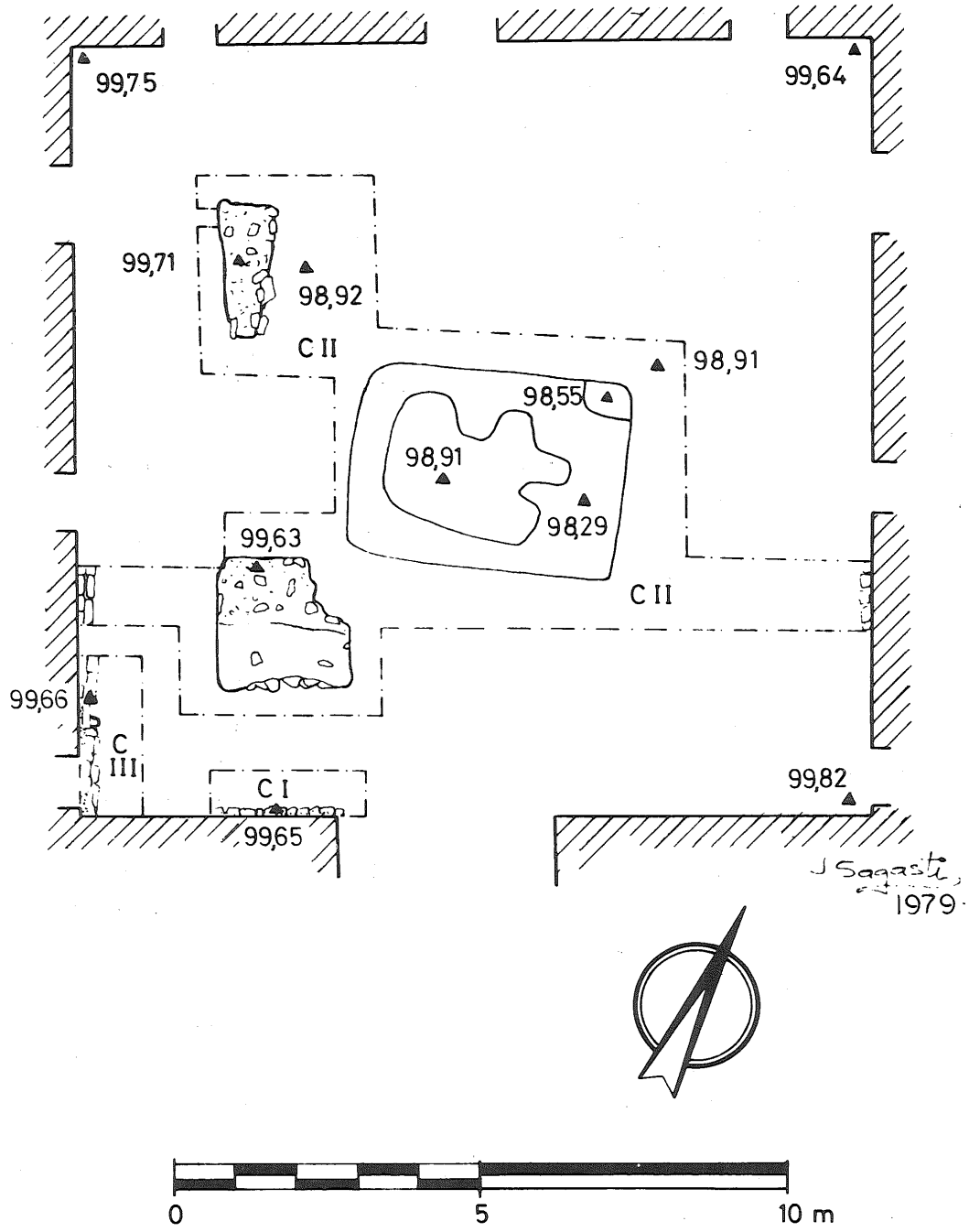
Two goals directed our excavations: first, to discover evidence in secure contexts that would assist our dating the construction of the qasr; second, to learn something of the hydraulic system at the site. We believed that the most likely place to excavate for evidence that would date more closely the construction of the qasr was against the foundations, where foundation trenches could be expected. We excavated against the east, west ,and south walls of the courtyard and on the inside and outside of the eastern exterior wall of the qasr, discovering foundation trenches in all but one location. Although foundation trench fill was sieved, in search of ceramic or other material culture remains, *no* finds were discovered in the foundation trench fill. These probes, however, did reveal the manner in which the foundations were laid, and increase our knowledge of the architecture of the qasr. We addressed our concern for the water system by opening a large square in the middle of the courtyard. There we discovered the remains of foundations for a central cistern. Additionally, a drain was discovered and excavated in the entry passage

6. Dr. James A. Sauer assisted the Project as pottery typologist. Dr. S. Thomas Parker and Dr. Frank Koucky also reviewed the ceramic finds and offered valuable suggestions.

7 Dr. S. Thomas Parker is the investigator who has most effectively applied methods of surface survey to trace occupational history in this part of the Transjordan. Note his *caveat* regarding the limitations of this method (1976:22).

8. A *thamila* (pl. *thamail*) is a well sunk into the gravel bed of a wadi, usually to the bedrock. For a discussion of *thamail* cf. Evenari, Shanan, Tadmor 1971 : 151-6.

9. It is difficult to obtain consistent measurements at Kharana: all walls are covered with a mortar veneer of various thickness and in various states of preservation. None of the vertical walls is perfectly plumb for its entire height. Thus a margin of error of +3.00 cm., at least, is to be expected in measurements and drawings of the qasr.



QASR KHARANA
COURTYARD, PLAN

Fig. 3

and south of the entry door to the qasr. By extending our excavations in the courtyard we were able also to demonstrate that the intended arcade in the courtyard was never completed: two bases for piers to support the arcade were discovered in the western half of the courtyard but not in the eastern, where it can be shown stratigraphically that none was ever constructed.

Foundations

Foundation courses were exposed in the courtyard and on either side of the eastern exterior wall of the qasr. The foundations average 0.67 m. deep. All foundations are three courses deep but each is unique in the relationship of these courses one to another: in every instance the foundations widen to form a bench-like support for the walls they carry, but this widening occurs variously in the first, second, or third course below ground.

The combined drawing of the south balks of Areas F-I and F-II (Fig. 8) clearly reveals the procedure by which the foundations were laid. In Area F-I, Layer 11 represents the original ground level at the time of construction of the eastern wall: it is a layer of black chert pebbles from which the foundation trench (Layers 12 & 16) was excavated. The workmen first raked the chert pebbles away from the area in which they were to dig their foundation trench (hence Layer 11 is thicker closer to the foundation trench). They then excavated a trench to receive the foundations, dumping the displaced earth atop the raked-aside pebbles. The material in Layer 10 matches in composition but not in compaction that in Layer 13 and that of 6, Layer 14. Layers 10 and 6 represent the dumped soil removed in digging the foundation trench. Through time this dump and the new qasr wall have trapped wind-blown dirt, causing a rise in the ground level adjacent to the qasr. In Area F-I (Pl. III), the first foundation course is virtually flush with the wall above. The second and third courses[10] extend beyond the first foundation course to form a supporting ledge. On the opposite side of the wall, in Area F-II, however, the first foundation course juts out from the wall, the second course extends even further, and the third is flush with the second. This kind of variety in the relative positioning of the courses of the foundations was discovered wherever we exposed foundations of the qasr walls (i.e., Areas F-I, F-II, C-I, C-II, C-III).

There is good evidence to suggest two phases of construction for the foundations of the qasr. The foundation trenches in Area F-II and in Area C-II, loc. 005.1 (Fig. 9) are internally stratified: the fill against the bottom two foundation courses differs from that packed against the uppermost course. In Area C-III, at the intersection of the south and west foundations of the courtyard, it was discovered that only the uppermost foundation course bonds. The bottom two merely abut. Additionally, in Area C-I (Fig. 5; Pl. IV) the bottom two foundation courses extend eastward far beyond the wall they carry and further than an extension merely to support the wall would require. The first course, however, essentially aligns with the wall above. These findings suggest that the bottom two foundation courses were laid

10. In Areas F-I and F-II the third, bottom, foundation course does not intersect with the south balk and, thus, does not appear in the drawing of that balk, Fig. 8.

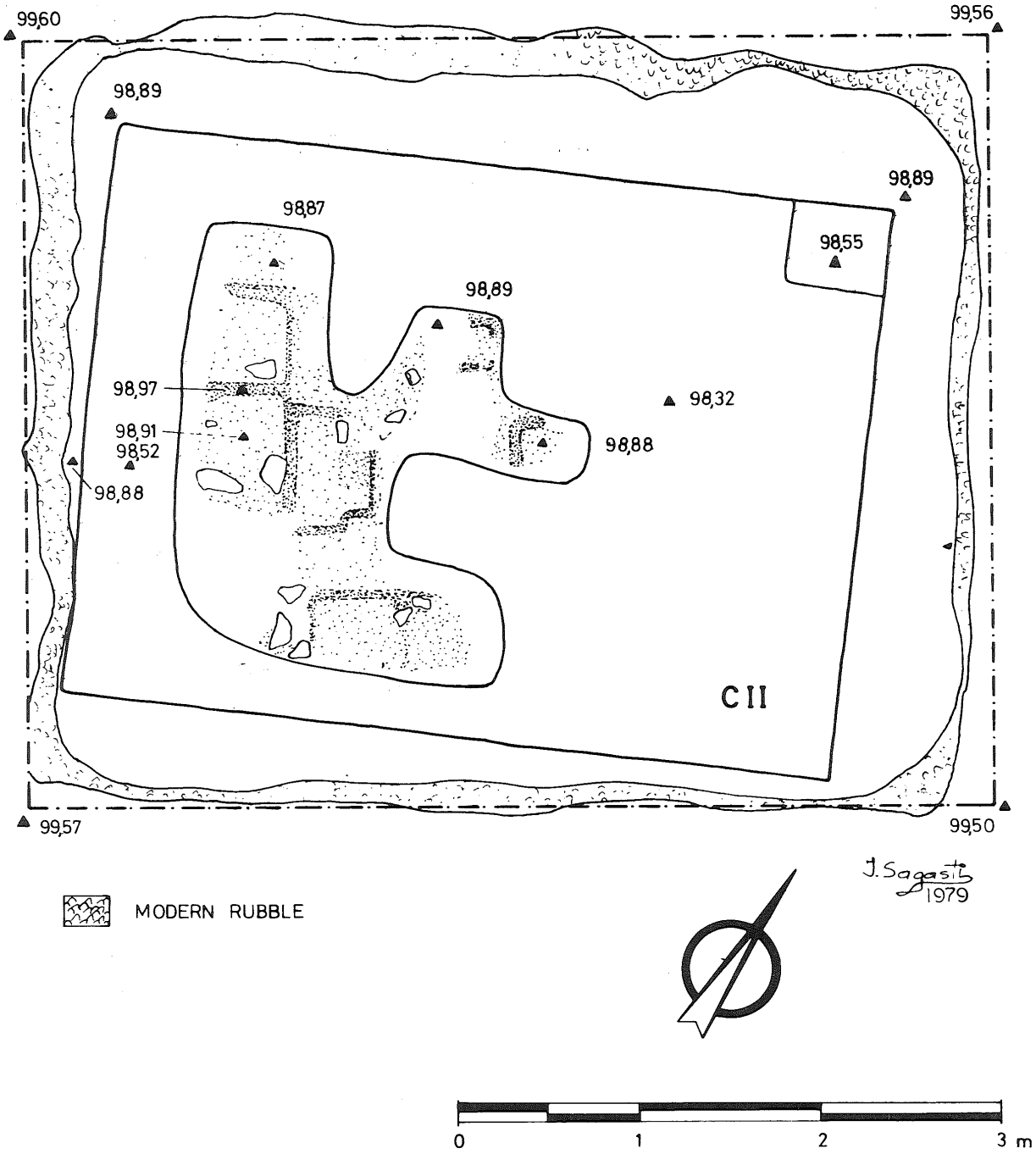
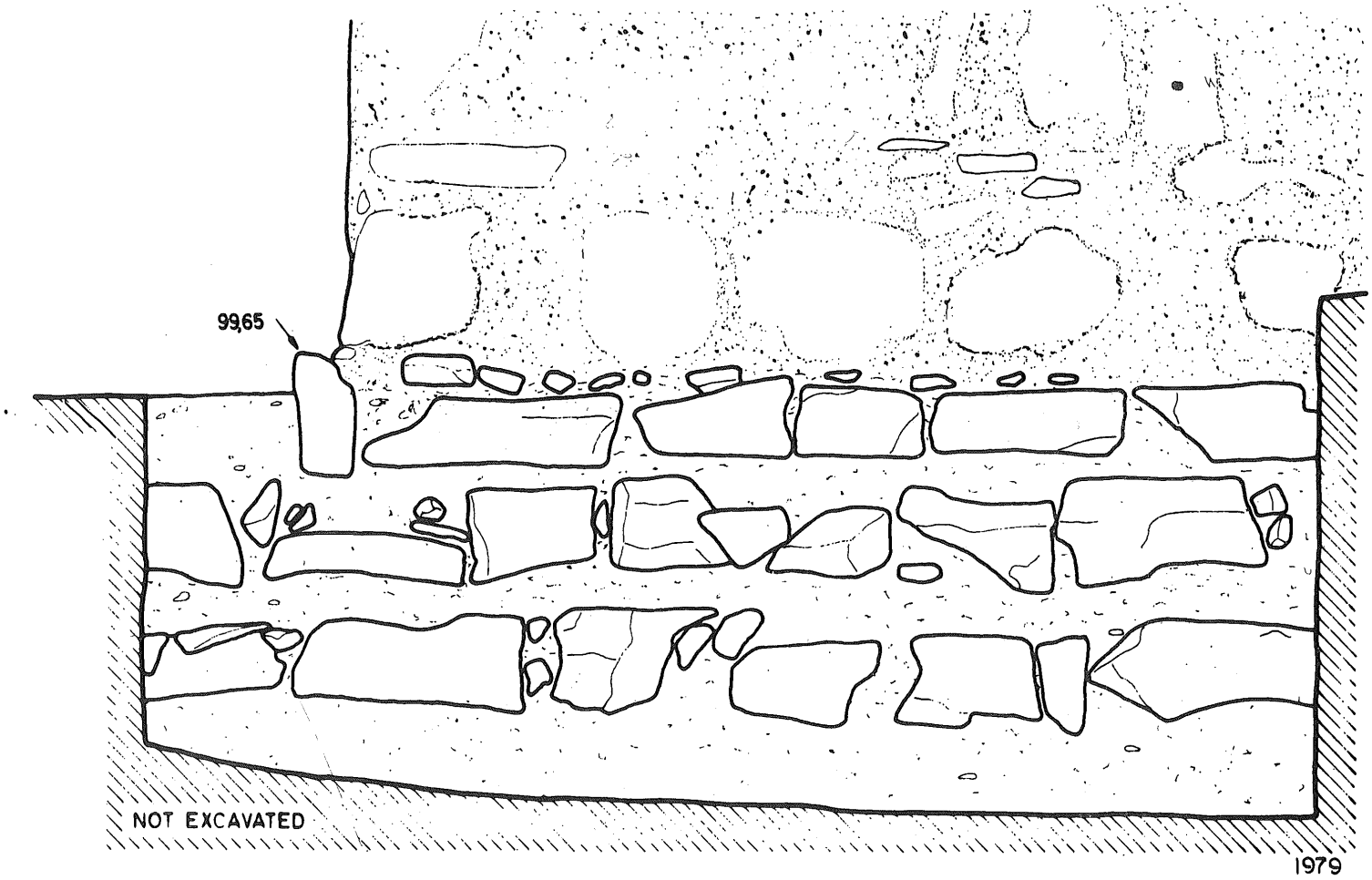


Fig. 4

QASR KHARANA
FOUNDATIONS IN AREA C II
PLAN



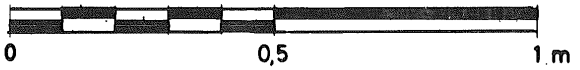
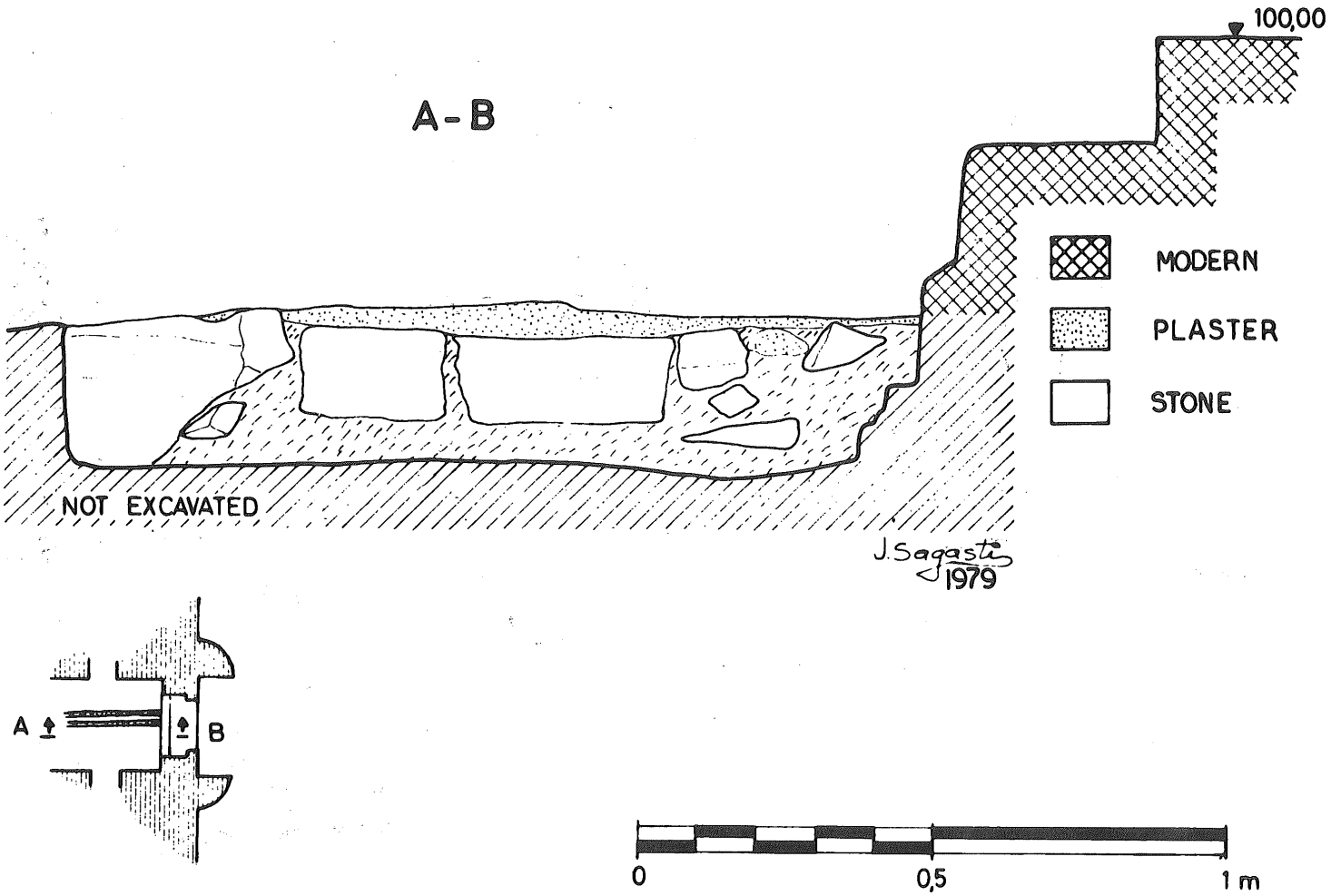


Fig. 5

QASR KHARANA
FOUNDATION STONES IN AREA C I
ELEVATION FROM NORTH



QASR KHARANA
DRAIN IN AREA CII
DETAIL: ELEVATION FROM WEST

Fig. 6

during a first constructional phase. After a hiatus (of indeterminable length), construction began on the uppermost foundation course and the walls of the qasr.

Cistern and drain

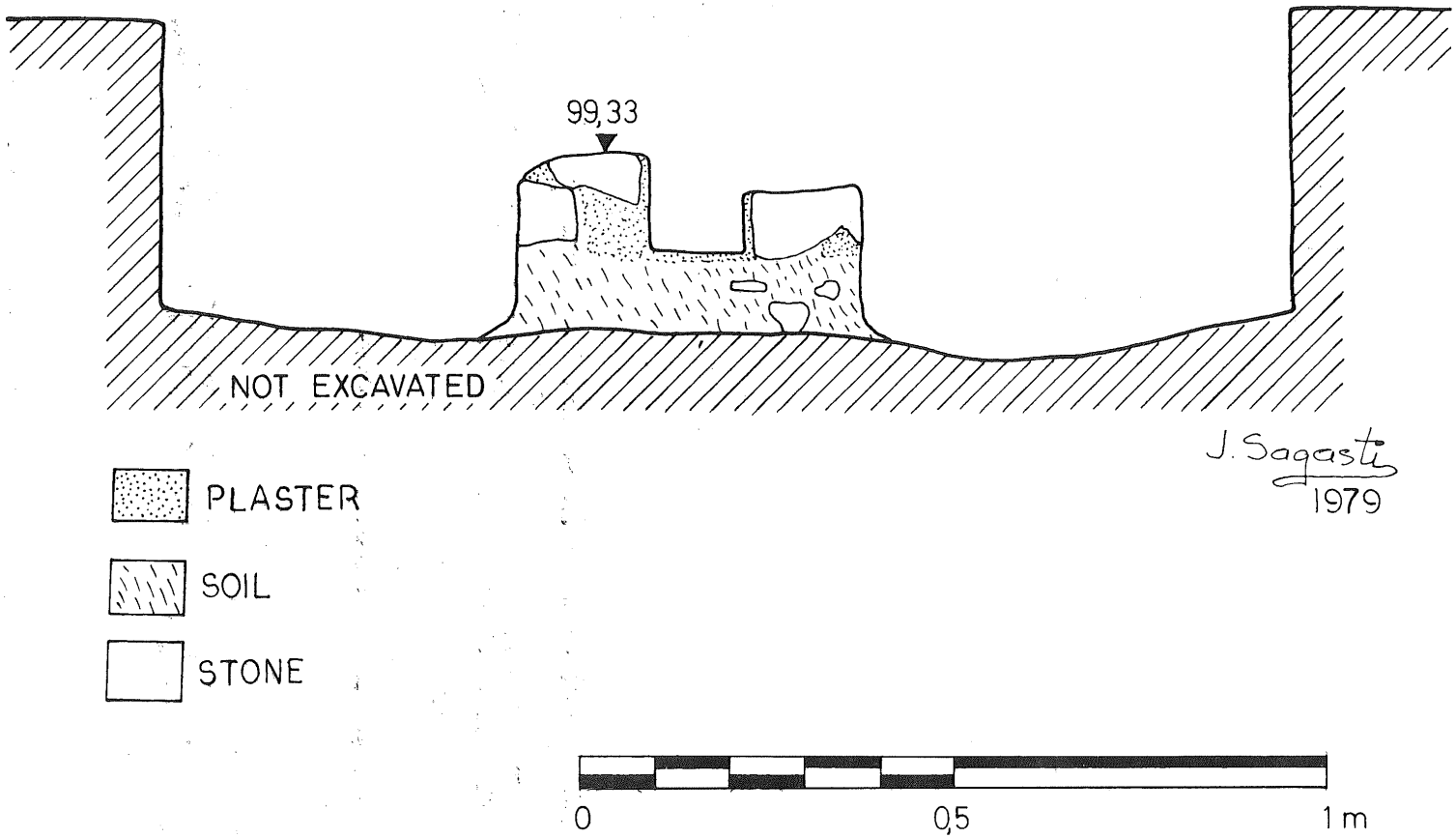
In the center of the courtyard, some 0.66 m. beneath the modern surface, we encountered the mortar bedding of paving stones now robbed-out (Fig 4; Pl. V, VI). This platform, with its enigmatic configuration, can be explained by its architectural and stratigraphic contexts and by the recent history of the site. Architecturally, we consider this to be a centrally situated cistern which would have stored water carried to it from *thamail* in the adjacent wadi and, possibly, water collected from the roof of the qasr. We discovered that the foundations of the cistern were embedded in a rubble fill comprised of countless flashlight batteries, soda bottles, and other modern debris mixed with stone, dirt, and fragments of original stucco decoration from the qasr. We suggest that during recent restoration work, laborers, in search of a possible well in the courtyard[11] came upon the robbed-out remains of the cistern.[12] Not understanding the true nature of this feature, they dug into it, thereby creating the curvilinear shape seen in the drawings (Figs. 3 & 4) and photographs (Pls. V, VI, IX). Eventually, they back-filled their excavation with the debris which we encountered.

Thanks to an unpublished photograph from the collection of the late G. Lankester Harding, now in the Registration Center of the Department of Antiquities,[13] we learned of the existence of a channel which had been excavated, in part, at the time when the photograph was taken in 1940. We discovered this drain (Figs. 6 & 7; Pl. VII, VIII) and followed it from the entry passage to its end some 9.40 m. south of the entry door to the qasr. Where the channel approaches the courtyard, it has been cut by modern restoration work, and a clear link between it and the central cistern is, thus, impossible to prove. The channel served as a drain and exhibits a constant slope of approximately 2^0 throughout its length. The drain is simply built: a channel cut into the ground has been lined on its two sides with roughly worked limestone. The sides and bottom were then plastered for watertightness. There are no indications that the drain was covered. The present end of the drain (Fig. 7) is certainly its original terminus: plaster lining the walls of the channel wraps around the end stones at this point. The south balk of Area G-II, furthermore, did not reveal any indication of a continuation of the drain in that direction, and two small probes on the axis of the drain, south of

11. Mr. Yusuf Alami of the Department of Antiquities who directed restoration at the site generously recalled for the writer that he had instructed the workmen to search for evidence of a water supply in the courtyard.

12. It is not surprising that stones from the cistern were robbed, especially after the cistern had fallen out of use. Nearly every large stone used in the qasr has been taken from the building. Many of these have been reused, at least since the time of Jaussen & Savignac's visit early this century, in the bedouin cemetery immediately southwest of the qasr (1922 : Pl. XIX, 2).

13. Thanks are expressed to Mrs. Hanan Kurdi in the Registration Center for having produced for the use of the Project a duplicate set of these important pre-restoration photographs of the site.



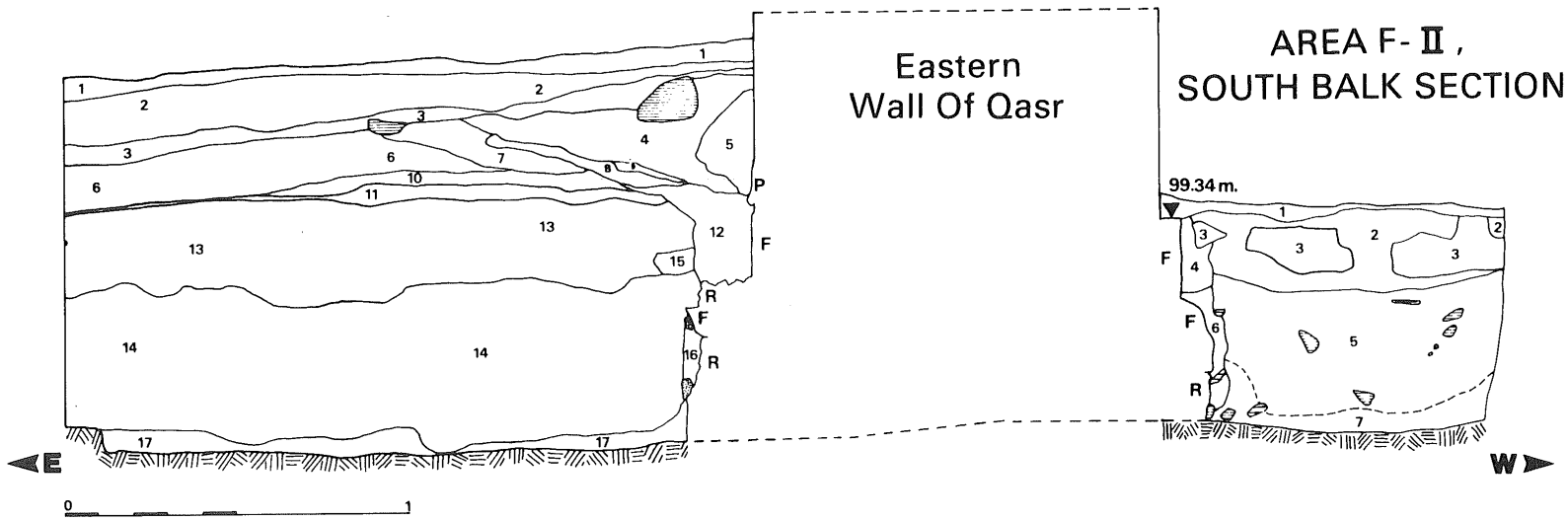
QASR KHARANA
DRAIN IN AREA G II
ELEVATION OF SOUTHERN END

Fig. 7

QASR KHARANA 1979

SOUTH BALK SECTIONS AREAS F-I, F-II

AREA F-I, SOUTH BALK SECTION



1. Modern surface: gray, dusty soil
2. Buff, loose soil
3. Gray soil with organic debris and limestone chips
4. Loose gray fill with limestone chips
5. Original construction debris
6. Medium packed reddish brown earth with occasional chert pebbles
7. Crumbly reddish soil with limestone pebbles
8. Hard packed golden soil
9. Light brown medium packed soil
10. Fine beige soil with a few chert pebbles
11. Layer of black chert pebbles
12. Foundation trench fill: loose reddish soil
13. Extremely fine, medium compact, beige to brown soil
14. Dark reddish brown medium packed soil
15. Extremely fine medium packed beige soil
16. Foundation trench fill: hard packed gray-brown soil
17. Hard packed light gray soil with chert inclusions

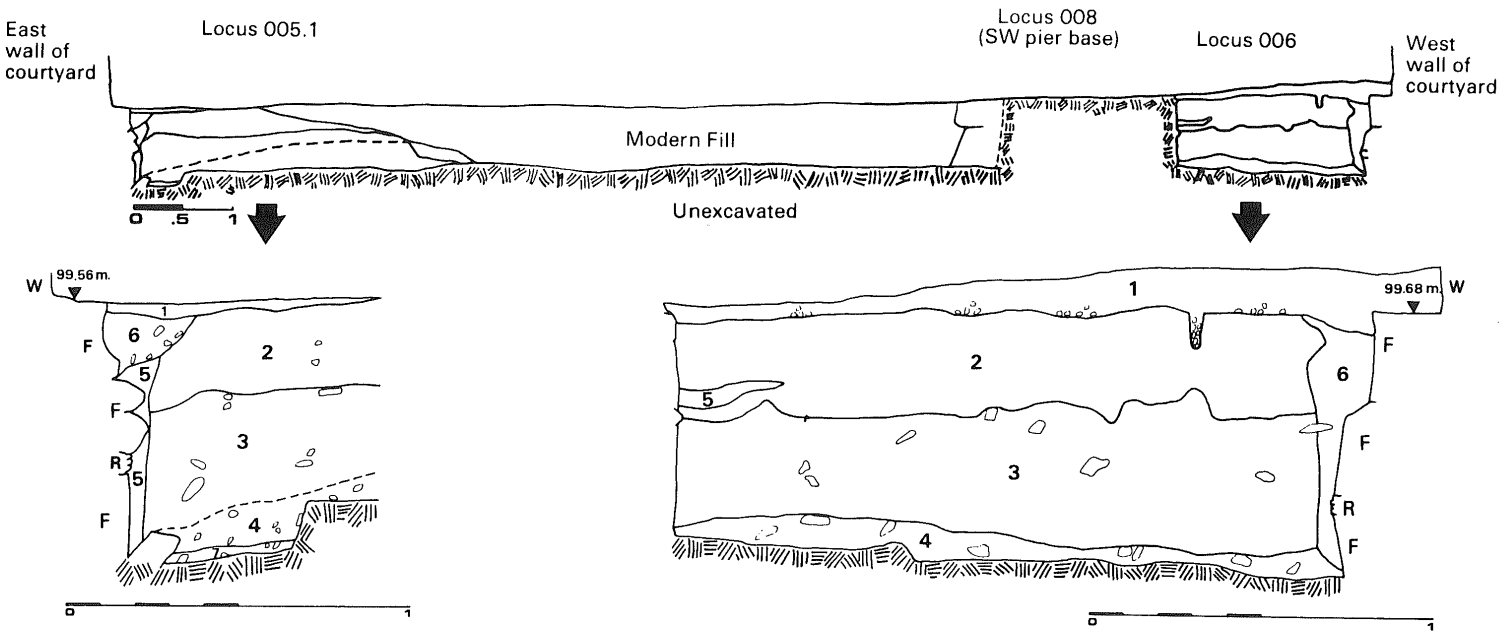
P -Plaster Surface
F -Foundation Stone
R -Rubble Separating Foundation Courses
-Stone
-Gray Fine Ashy Material

1. Modern surface: dusty, gray soil
2. Fine, medium compact, beige to brown soil
3. Dry, crumbly gray soil (animal burrows?)
4. Foundation trench fill: hard gray soil
5. Dark reddish brown, medium packed soil with limestone inclusions
6. Foundation trench fill: hard, light gray soil
7. Hard packed light gray soil with chert inclusions

Fig. 8

QASR KHARANA 1979

AREA C-II SOUTH BALK



AREA C-II, LOCUS 005.1, SOUTH BALK

1. Loose modern surface
2. Soft, fine red-brown soil
3. Brown soil with stones
4. Hard, dark pink to brown soil with stones
5. Foundation trench fill
6. Foundation trench fill (loose, dry red brown soil with pebbles)
7. Buff colored, hard packed soil

W=Courtyard wall
F=Foundation stone
R=Rubble separating foundation courses

AREA C-II, LOCUS 006, SOUTH BALK

1. Loose modern surface
2. Soft, fine red-brown soil
3. Darker brown soil with stones
4. Hard, dark pink soil with many stones
5. Fine, light gray ash layer
6. Foundation trench fill

Fig. 9

Area G-II, failed to reveal its extension there. The drain neither branches nor receives tributaries along the length excavated. It probably served to lead waste water away from the courtyard.

Pier bases

West of the courtyard cistern, we discovered two small paved areas (Fig. 3; Pl. V , IX). These could be explained either as the remnant of a paving that once surrounded the cistern or as the foundations for piers intended to carry an arcade in the courtyard. Springers on the north and south facades of the courtyard attest the possible presence of such an arcade. The paved areas, approximately 0.35 m. thick, consist of roughly worked limestone held in a white mortar. There is, however, no indication in any of the balks which we retained during excavation that these features ever extended further than as preserved to the west, north, or south. Only to the east have they been damaged, in part. There, the modern rubble fill that encased the cistern foundations was found again, packed against the broken edges of the paved areas. The southern area however retains its southeast corner intact. This permits us to reconstruct its original size as approximately 2.20×2.20m. We suggest, therefore, that these are not remnants of a courtyard paving but rather bases for supports to carry a balcony for the second storey rooms that open on to the courtyard. Pier bases in the eastern part of the courtyard, however, were never constructed. Had a pier base ever existed in the southeast quadrant of the courtyard, corresponding to that in the southwest, we should have encontered it — or a robber trench — in our 1.00 m. wide probe that ran east-west across the courtyard. We found no such evidence as is reflected in our drawing of the south balk of that probe, Fig. 9. There is no surface indication that a pier base ever existed in the northeast quadrant. This suggests that the balcony itself was never constructed.

Conclusion

Excavations have not revealed any evidence, numismatic, ceramic, or epigraphic, to date more closely the foundation of Qasr Kharana. Excavations have extended our understanding of the architecture of the site which will allow a more thorough comparative study of Kharana with analogous buildings in Syria-Palestine than previously possible. Surface collection of ceramics suggests that the main occupation of the building occurred in the Umayyad period. Study of the environs of the qasr has not discovered a water source for the structure with the exception of modern *thamail* in the adjacent wadi. A cistern for storing clean, and a drain for transporting waste water has been uncovered within the qasr, however, and helps answer the vital question of how Kharana provided for its water.

A definitive answer to the date of Kharana's foundation does not seem to fall within the purview of archaeological method: the series of sterile foundation trenches does not promise hope for the discovery of firm dating evidence in further excavations. Excavations, however, have broadened our understanding of the architecture of the structure and lead the Qasr Kharana Project to the next stage of its work, one of architectural comparison and broader historical investigation. It is to those tasks that we now address our efforts.

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