

AREA G.4, 13, 15

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Squares G.4, 13, and 15 (forming a triangle with sides of 40, 78, and 110 m.), lay southwest of the acropolis on the terraces west of the plateau of the caravanserai, near Benchmark A (872.62 m. above sea level).

As the accompanying terrain map shows (see Fig. 14), other natural and architectural features surround these Squares—caves, cisterns, field walls, an arch, and other architectural remnants. Some of the natural caves¹ had been deliberately refined for some useful purpose. All caves (one hewn into three shapely rooms) contained evidence of most recent use for animal shelter.

Since any cave could be cleaned periodically, significant stratigraphy would not be available from inside. Hence excavation of the soil layers immediately outside one cave entrance (G.4:1) was one of the goals at the beginning of the 1976 season. But it had to be abandoned in favor of the goal to reconstruct the usage history of the cave interior and of the adjoining cistern complex, in other words, to complete and confirm the sketchy report given in the Heshbon 1973 report.²

CISTERN/CAVE COMPLEX G.4

The 1973 preliminary exploration of the cave followed upon a villager's report of numerous tunnels leading from it.³ Entrance

¹ Formed by the erosion of varied limestone formations of the area, near the edge of the Transjordan plateau. See Reuben Bullard, "Geological Study of the Heshbon Area," *AUSS* 10 (1972): 129.

² Excavating beneath G.4:1 to bedrock was impracticable for reasons of safety and because the removal of the substantial amount of very late material would have precluded all work within the cistern complex itself.

³ On the 1973 report, see Dewey M. Beegle, "Soundings—Area G," *AUSS* 13 (1975): 215. The 1976 season confirmed what is reported there. What is called *Qasr* there is called the *Caravanserai* in the accompanying terrain map. (The

G.4:1, ca. 1 m. wide x 2 m. high, was blocked with field stones sealing Cave G.4:2, which contained an open space ca. 8.50 m. x 4.00 m. and 2.00 m. high, divided into two pens by a modern low wall (G.4:3). Two tunnels, filled with silt up to 0.50 m. from the top, led from either end of the cave (see Fig. 15) to two other caves already accessible from natural mouths. The third tunnel (G.4:4) was almost totally blocked by the medium to large-sized field stones of Wall G.4:3, which led from the back of the cave 2.00 m. south, cutting into the northwest corner of large Cistern G.4:5, which led southwest to Intersection G.4:6 uniting with three more cisterns, G.4:7-9.

Stratum I/Post II Gap: Modern/Ottoman (ca. A.D. 1456-1976)

Stratum I, Modern, stood as a link between the current ethnographic studies being undertaken in the village of Heshbân, and the stratigraphy of older occupation.

Description (Stratification): A thin layer of soil covered the 0.75 x 0.15 m. threshold of cave Entrance G.4:1 at a level of 866.22 m. Inside Cave G.4:2, trenches were laid out in the west pen. A relatively level top layer (G.4:10) was a mixture of light brown soil, straw, and dried dung with some stones, lying on Floor G.4:11a, which slanted down to the floor of Tunnel G.4:4. Cistern G.4:5 had a top soil layer (G.4:22) of similar material with a greater percentage of stones but very little straw.

Description (Architecture): Three steps led down from the threshold of G.4:1 to cave Floor G.4:11a. Modern Low Wall G.4:3 was built ca. 1.00 m. wide over the steps and extended to Tunnel G.4:4, where it widened enough to prevent access to this tunnel.

Description (Bones): The Ottoman/Modern loci produced the following bones: 19 sheep/goat, 7 chicken, 2 horse, 1 large mammal, 1 turtle, 4 cow, 3 undistinguishable.

Description (Artifacts): The latest pottery from G.4:10, in the cave, was Modern/Ottoman and probable Ottoman; from Locus G.4:22 in Cistern G.4:5 was Ayyübid/Mamlūk. Modern nails were driven into the walls of G.4:5, and relatively modern artifacts were found in Tunnel G.4:4 (some were registered because of their relevance to the ethnographic studies in the village). An Ayyübid coin (object 2787, A.D. 1196-1218) came from Locus G.4:22. The following registered artifacts came from Modern/Ottoman loci:

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2229	Large Key	2233	Turkish Clay Pipe
2228	Stirrup	2222	Bronze Bracelet
2221	Flint (worked)	2223	Iron Hook
2231	Small Iron Horseshoe	2230	Plastic Comb
2232	Machine Part (iron)	2731	Loom Weight

Interpretation: Cave G.4:2 was used in Modern times for storing straw and firewood, and as a shelter for animals, particularly sheep and goats.⁴ A modern date for the sealing of Tunnel G.4:4 was attested in Wall G.4:3 by the presence of old shoes, tin cans, bits of old clothing, etc., near the top. Cistern G.4:5 showed Modern nails driven in the walls, but no Modern garbage, as was found in G.4:10 and 4. The scant Ottoman evidence mixed with modern remnants was found only in the cave.

Strata II-IV: Ayyūbid/Mamlūk (A.D. 1200-1456)

Description (Stratification): The top occupation layer of these strata, no longer separable from later Stratum I, rested on Floor G.4:11a, which was constructed during this period. Stratigraphy in Cave G.4:2 was based upon two trenches ca. 1.00 m. wide. One trench, running northwest to southeast, lay on the path between cave Entrance G.4:1 and Tunnel G.4:4; the other, northeast to southwest, ran parallel with the northwest wall of G.4:2 in the direction of the western tunnel. In the latter trench, Layers G.4:11b, 13, 15-18, and 20 (light brown, crumbly, with small stones and *huwwar* chips) lay under the ceiling collapse of G.4:11a. None was an occupation layer, though some signs of regular use were associated with Firepit G.4:19 near the cave wall just above the bottom soil layer (G.4:20).

In the trench leading from cave Entrance G.4:1 to Tunnel G.4:4 the filling was less distinguishable: gravel fill nearest the entrance and closest to bedrock, and dark, hard-packed, claylike soil at the entrance to Tunnel G.4:4, lying under a layer of firmly packed *huwwar* chips left from the carving of Tunnel G.4:4.

Excavation was pursued along the western half of Cistern G.4:5 into the middle of Intersection G.4:6, then was moved to the east from there on, in order to obtain better results from Cistern G.4:8, and to create a single straight central balk line running the entire length of the installation.⁵

Various soil loci continued over the plaster floor, through Cistern G.4:5, Intersection G.4:6, and Cistern G.4:8, dividing into upper and lower, then combining. There were some *huwwar* layers; several occupation layers, mostly of soil in dark, medium, and light brown ranging from powdery to crumbly; mixtures with small stones; or large-rock tumble. These varied layers extended

⁴ Saud Daud, a villager, reported that his father used Cave G.4:2 for animal shelter for the past 5 years and that his grandfather stored grain, straw, hay, and firewood for 40 years earlier; also that Tunnel G.4:4 was always blocked.

⁵ See Pl. XIV:B.

over a *huwwar* mound in the northwest corner of G.4:5, sealed up against a large stone near its center, and ended over the steps at the south end of Cistern G.4:8. Additional soil loci were found outside, sealing the vertical shaft above Cistern G.4:5.

Description (Architecture): Two floors were evident in Cave G.4:2—the cave floor itself and G.4:11a, composed of ceiling collapse supplemented by flat stones, relatively level except where it slanted downward to the floor of Tunnel G.4:4. In the opposite direction it joined with the bottom course of the cave's apparently contemporary enclosure wall, which rested on soil with no further foundation. Beneath soil Layer G.4:17 and Firepit G.4:19 south of the western tunnel, on the side wall was a bench carved out of bedrock, continuing south into the balk and apparently stopping on the north at the approach to the side tunnel.

Cave G.4:2 was a natural cave averaging 8.50 m. long, without tunnel extensions, and 4.00 m. wide (see Fig. 15). The smoke-blackened ceiling varied from 3.25 m. high at the cave entrance to 1.50 m. at Tunnel G.4:4 which measured ca. 1.50 m. high, ca. 1.35 m. wide, and ca. 2.65 m. long. This tunnel was clean, unplastered bedrock. Inside Cisterns G.4:5-9, all surfaces exposed gave evidence of having been plastered at one time.

In Cistern G.4:5 (see Fig. 15), measuring 10.15 m. long, 3.35-5.00 m. wide, and 2.50 m. high, the plaster on side and ceiling surfaces was easily removed but the well-preserved floor plaster was tough, adhering firmly to bedrock. A horizontal tunnel (ca. 2.00 m. deep, 0.90 m. wide) left the center of the northeast wall at ceiling level, with two footholes in the wall for steps beneath its opening. More than a half-dozen lamp niches were cut through the plastered wall surfaces, some ca. 1.00 m. from the floor, others near the ceiling. Soot deposits marked most of them.⁶ Near the center of the ceiling was a 0.60 m. x 0.80 m. vertical shaft cut through 2.75 m. of bedrock and continuing through another 0.50 m. of superstructure. Near Intersection G.4:6 was a crude retaining wall (G.4:65), measuring 1.00-1.25 m. high and 3.50 m. long, of uneven width. Its base was ca. 1.00 m. above the plaster floor, built upon four layers of Ayyūbid/Mamlūk fine gravel and brown soil above two layers of Byzantine sediment.

Cistern G.4:7 was non-functional during this period, having been filled with large stones and at least five column drums up to 1.75 m. long by 0.50 m. in diameter. Size and position of these drums demonstrated the presence of an as yet unlocated access to this cistern in addition to the mouth in the west corner of G.4:7. The top layer of the fill measured 4.70 m. northeast-southwest and 3.70 m. northwest-southeast. The ceiling at a level of ca. 876.61 was almost 1.00 meter higher than G.4:6.

Cistern G.4:8 slanted upward at 28° for 5.50 m. (horizontal distance) where it was sealed by a wall (not datable) of large stones. Smaller ones placed in the upper west segment allowed easy removal for exit. This cistern had two other access routes; a large vertical shaft blocked at bedrock by a fallen pillar and large stones; and a small side entry on the northwest wall near the west end, which became a round vertical shaft.

⁶ It was under one of these lamp niches that in 1973 the charred sherds of a Byzantine cooking pot were found embedded in chunks of charcoal.

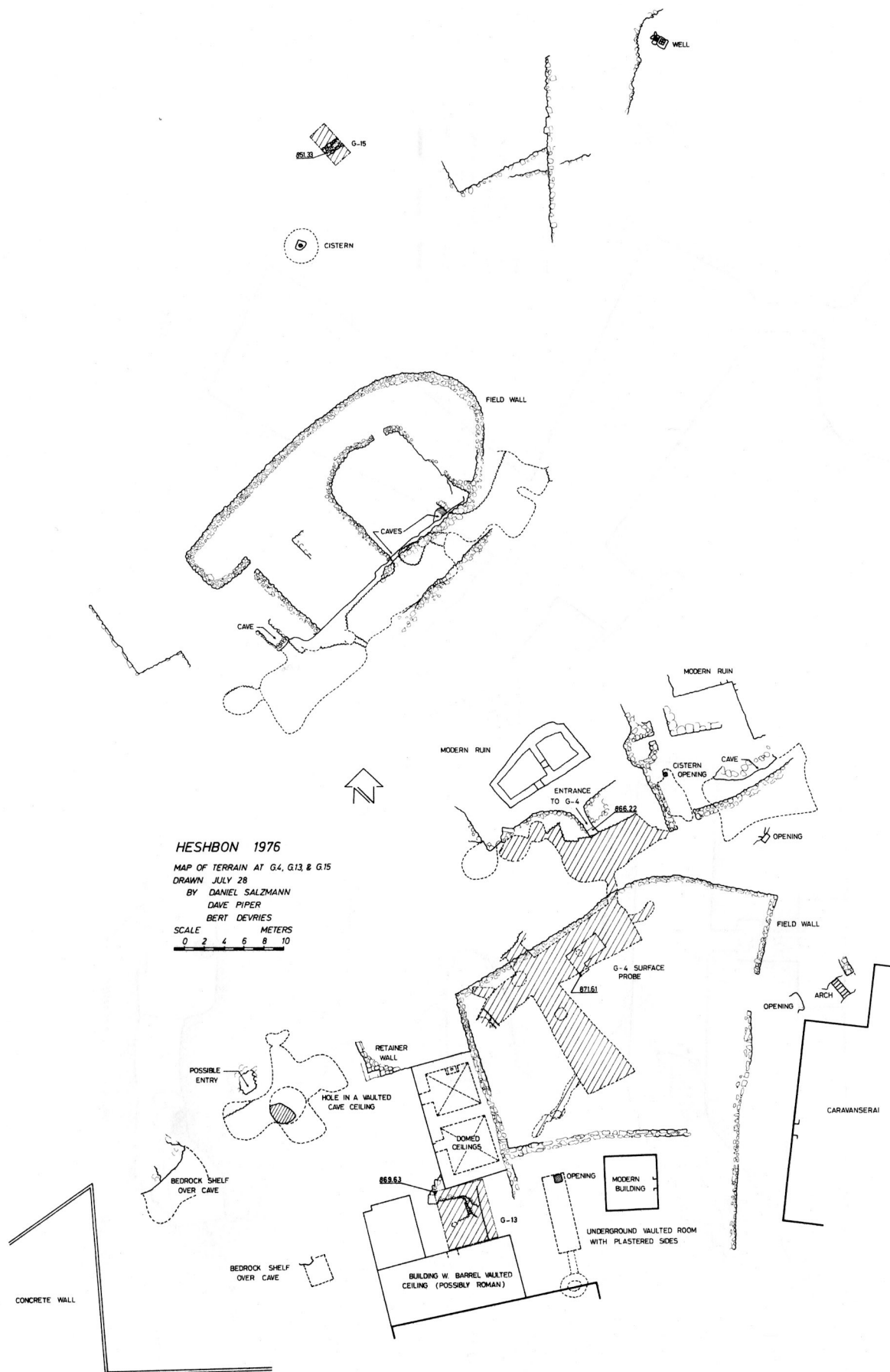


Fig. 14. Terrain map locating Squares G-4, 13, and 15, southwest of the acropolis.

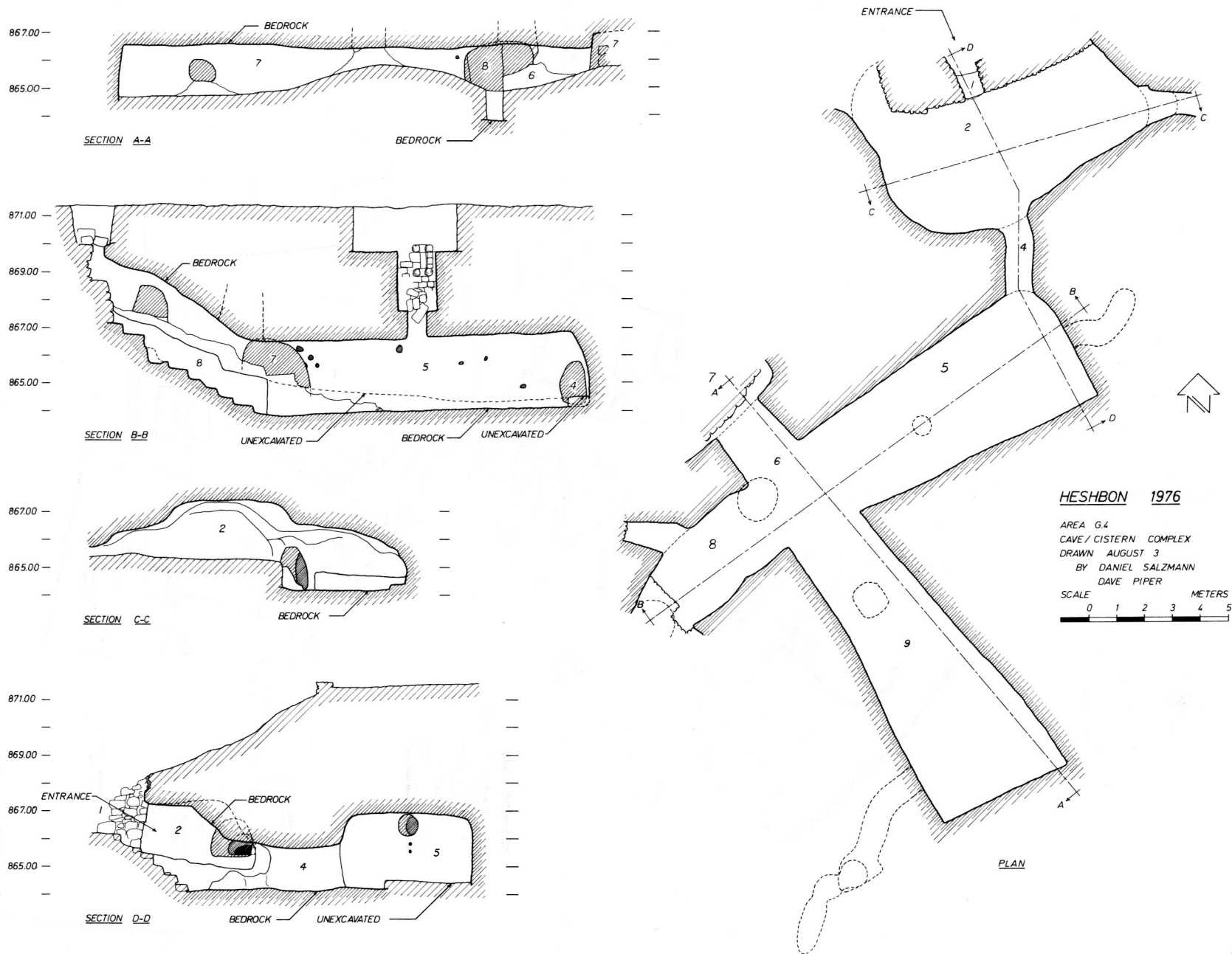


Fig. 15. Plan and sections of Cave/Cistern Complex G.4.

Cistern G.4:9, 3.25-5.00 m. wide x 10 m. long, was one-half to one-fourth filled, with a one-course semicircular wall abutting the far end. A water tunnel 6.00 m. long blocked with *huwwar* sediment entered the southwest wall 2.00 m. from the south corner. In the center of the ceiling was a 1.00 m. diameter vertical shaft partly blocked by a cone-shaped soil deposit. Outside, the only architecture of this period was a possible wall corner placed directly over the top of G.4:5 cistern Collar G.4:94.

Description (Bones): The Ayyūbid/Mamlūk loci produced the following bones: 246 sheep/goat, 37 chicken, 15 cattle, 24 large mammal, 4 cow, 3 horse, 1 pig, 2 fish, 2 dog, 1 rodent, 63 undistinguishable.

Description (Artifacts): A mendable Mamlūk sugarpot was found crushed in the north balk above Cistern G.4:5; it fit through the small opening of the top cistern Collar G.4:94. Other items registered as objects were:

2236	Stone Pendant	2359	Stone Disc
2277	Green Glass Tessera	2872	Nabataean Coin
2279	Two Stone Tesserae	2617	Iron Ring
2294	Iron Bar	2657	Iron Ring
2282	Whetstone	2658	Iron Hook

Interpretation: Cave G.4:2 was used extensively during this period, as indicated by the build-up from the bedrock floor to the later ceiling-fall-and-stone-pavement floor (G.4:11a). Firepit G.4:19 reflected some domestic occupation. The cave enclosure walls were constructed after Floor G.4:11a; then, after some build-up in the cave, Tunnel G.4:4 was hewn. No other traces of cutting were evident in G.4:2. A large *huwwar* mound (G.4:30) was left on the far end, inside Cistern G.4:5, on the plaster floor (which indicated that the cistern had been cleared). Access to the cistern complex and thus to Tunnel G.4:4 was gained through the opening at the top of the stairs in G.4:8.

Cistern G.4:5 itself saw several stages in this two-and-a-half century period. Layers G.4:41 and 45 a,b,c attested cistern use continued from 'Abbāsīd and Umayyad times. Later, when the installation was converted for domestic use, the slanting and partly mud-covered floor was stabilized by spreading *huwwar* Layer G.4:66 = 75, by partly removing soil deposits, and on the northwest end, clearing to the plaster floor. Then Tunnel G.4:4 was cut. Continued domestic use built up more floor layers. Another thin *huwwar* floor (G.4:62 = 72) was laid, level with the third step from the bottom of Cistern G.4:8. These stairs and the

tunnel at the other end were in use at the same time.

Gradually, however, the stairs were abandoned, perhaps during an occupation gap, leaving two access points open, one at the top of the stairs and the other near it, the tunnel leading off to the west.

Soil drifted, washed, or filtered into G.4:8, 6, and 5, and at one point a rock tumble occurred in G.4:8. A period of reoccupation saw the construction of the crude G.4:8 sealing wall, and later of the crude retaining Wall G.4:65, which reduced the usable space to Cistern G.4:5.

Stratum V: 'Abbāsid (A.D. 750-969)

Description: Soil Layer G.4:97 lay above the olive press which was re-used as cistern Collar G.4:100, and sealed against the east side of the four-stone collar between G.4:100 and the top Collar G.4:94. Inside Cistern G.4:5 itself there were no purely definable 'Abbāsid deposit layers.

Interpretation: The configuration of the loci containing 'Abbāsid pottery in the layer immediately above the pure Umayyad Layer G.4:50 suggested that the cistern was used for water storage for a brief period at least.

Stratum VI: Umayyad (A.D. 661-750)

Description (Stratification): Soil Layer G.4:50 lay directly beneath the vertical shaft and directly over the plastered floor in Cistern G.4:5.⁷ Other layers from this Stratum appeared on top, around the Cistern G.4:5 shaft mouth, the uppermost (G.4:21) 0.25 higher than the top of cistern Collar G.4:94, another (G.4:99) sealed beneath the four-stone collar, and other soil and sediment layers.

Description (Architecture): Three collars were placed as a mouth over an almost completely blocked vertical shaft. Bottom Collar G.4:100, adapted from an olive press,⁸ was round with a 0.25 m. diameter hole in the center.

⁷ Suspicion of contamination of the ceramic samples taken on the second day in this locus occasioned an extended peeling of G.4:50 to the southeast of the datum line. Result: isolation and verification of G.4:50 Umayyad dating.

⁸ Comparable to the olive press found in Area D.6 in 1971. For location in Square, see Lawrence T. Geraty, "Heshbon 1971: Area D," *AUSS* 11 (1973): 102, Fig. 6; also *ibid.*, p. 110, for dating of appropriate loci, although the olive press is not mentioned there explicitly. The orifice of the press would be small enough to prevent children and thirsty small animals from falling into the cistern.

The second, built of four stones, supported the top collar (G.4:94), a single square stone with a 0.25 m. hole. To the northeast and on bedrock was the bottom course of a wall with one probable door socket visible, and parallel to the wall a smoothly cut (or worn) channel, possibly a water channel for Cistern G.4:5. The vertical shaft itself was oval, 1.00 m. to 1.25 m. wide. It was filled with large stones, except for a small shaft crowned by the collars.

Interpretation: The cistern was used only for water storage during this period, after an earlier period of domestic occupation when the shaft was filled with stones. With earlier occupation traces removed from the bedrock above, buildings were constructed conveniently nearby, and the first collar put in place. Gradually continued use was evidenced by the soil accumulations which necessitated higher collars: the four-stone supporting collar and the monolithic Collar G.4:94. Finally, a possible wall placed near the mouth without sealing it may have prevented the drawing of water while allowing its collection. This possibly explained why the later 'Abbāsid locus appeared only on one side of the mouth. Use continued into still later periods, but with little efficient water collection, allowing a return to domestic occupation of the cistern complex.

Umayyad pottery Handle 2825 was a circular mount attached to the shoulder portion of a rounded vessel. The bottom portion was missing. The top was perforated in a simple design which probably extended around the circumference of the vessel, perhaps several times. The holes may have been vents in a lantern or a strainer on a vessel for drawing clean water.

Strata VII-VIII: Late Byzantine (A.D. 450-661)

Description (Stratification): All layers from these Strata tilted down from the stairs in G.4:8, one from as high as the third step from the bottom. (The surface layer [G.4:47] on the dump in G.4:7 was a completely distinct phenomenon.) Sediment layers continued relatively level through the intersection and about one meter into G.4:5, where the well-sorted, mostly water-laid sediment was severely disturbed by later activity. In the exceptionally dry Byzantine clay Layer G.4:39 large cracks 0.01-0.04 m. wide and ca. 0.07 m. deep broke its surface into flagstone-like blocks, and this clay mud deposit shrank ca. 0.03 m. from the cistern wall. Though Locus G.4:38 was dated Early Roman, a Byzantine date was almost certainly required by the context; and occupation Layer G.4:67, with one Ayyūbid/Mamlūk (probably intrusive) sherd, could have been contemporary with Pit G.4:86.

Description (Architecture): Storage Pit G.4:86 was dug into the large stairway of G.4:8 where the third step from the top had been removed. The 0.40-0.60 m. oval, unplastered pit had a slanted top opening which allowed for 0.45 m. depth in the back and 0.15 m. depth in the front. Presumably the lip, ca. 0.05 m. wide, once held a lid.

Numerous unplastered lamp niches (many of them sooty) were found carved into the plastered cistern walls, at least six in G.4:5 (half of them carved within 1.00 m. above the cistern floor, the others near the ceiling) and one in each of the eight walls at the four corners at Intersection G.4:6.

Interpretation: Deposits indicated that the cisterns were used first for water storage during this period,⁹ then later converted for domestic purposes. The two lamp-niche levels permitted both general lighting from the high niches and close lighting from the lower niches (which were too low to have been intended for use in animal shelters).

Remodeling for domestic use included partial cleaning (in which process the one Late Byzantine intrusive sherd could have been trampled into an Early Byzantine sediment layer; or brought in subsequently by rodent tunneling, presently visible only in the balk of G.4:83). The vertical opening in G.4:5 was blocked with boulders and stones, and the wet mud was removed as far as the point where the sediment was firm enough to support body weight, though several large chunks that broke loose during use remained.

This period also saw the use, if not the digging, of Pit G.4:86 in the stairway of G.4:8. The evidence suggested that this pit was finally allowed to fill with erosion debris. (A report from flotation samples was not available at this writing.)

The charcoal in all associated loci may have been washed in, but large concentrations of it within the chamber of Cistern G.4:5 gave evidence of fire there. In addition, in 1973, charred Byzantine cooking pot sherds had been also found under a lamp niche on the northwest wall of G.4:5. Within 1.00 m. west of the fire remains

⁹ The color of the clay attested an extremely long occupation in the vicinity of G.4. See Harold E. James, Jr., "Geological Study at Tell Heshbân," *AUSS* 14 (1976): 165-169, esp. p. 166. The loose red residual and sandy soil found mostly in later strata attested deep disturbances of preoccupation levels above bedrock, probably during building operations which destroyed all clearly definable earlier occupation levels.

were the mud chunks dubbed as "Flagstone" G.4:39. The cracks in G.4:38 were caused through drying by the fire. This clay also could have served as a bench during the period of domestic occupation. As the cracks appeared, they were filled with debris. The evidence did not attest a long domestic occupation. The suggestion that the conversion was due to an emergency has some merit. Defense requirements could have accounted for the filling of Cistern G.4:7.

Strata IX-XIV: Early Byzantine (A.D. 324-450)

Description: The oldest sediment layers were G.4:83 in G.4:8 = G.4:76 in G.4:6 (a relatively level well-sorted 0.10-0.15 m. thick sediment layer containing small sherds covered the bottom stair in G.4:8) and the lowest sediment layer, G.4:85 = G.4:87 in G.4:6 and G.4:71B in G.4:5. These deposits rested directly on the smooth and intact plaster Layer G.4:102 laid directly upon bedrock.

Interpretation: It is possible that the G.4:6 lower strata were never cleared of sediment. If so, heavier infiltration of sherds might be expected. More likely, the relatively new cisterns were cleaned regularly, and any Roman loci there were lost.

Strata XV-XIX: Roman (63 B.C. - A.D. 324)

Description: One significant Early Roman layer (G.4:27) was attested on two of the upper stairs, above storage Pit G.4:86. This layer was sealed over with a black pitch-like substance that continued 0.01-0.02 m. thick over most of the stairs; large portions were broken away. The lower stairs contained no datable evidence. Associated architecture was the stairs themselves, nine steps in all. The east wall of Cistern G.4:8 was uneven because of a large crack in the bedrock, sealed by several plaster layers. A slab of ceiling bedrock may also have fallen. The latest pottery from the stairs was Early Roman; the latest from the plaster in all the cisterns was Late Roman.

Interpretation: The cistern complex in its present architectural form dated from the Early Roman period. The originally soft pitch-like sealer retained the water under heavy traffic conditions for which plaster would have been too brittle. The stairs may have extended beyond the present blocking wall to a level nearer that of the bedrock ceiling. The extent of Early Roman plastering was not clear, but Late Roman completion was certain. A possible cause of the fissure in the wall was the earthquake of 31 B.C.

If the cistern complex had been fully cut at that moment, however, more extensive damage might be expected. Perhaps it is more plausible to date the present installation to Early Roman II at the earliest, without precluding the evolution of the complex from several smaller units. Another complex nearer G.13, suggested that two originally separate installations were subsequently connected by the cutting of a third.

Summary and Conclusion

An Early Roman "walk-in" cistern and several neighboring vertical-shaft cisterns were enlarged, joined in a single complex. The porous *nari* limestone was sealed and in Late Roman times it was completely coated with a firm 0.01-0.02 m. plaster or cement. Numerous inlets received water, while the large stairway allowed water to be taken out easily. Esbus continued to rely on this installation until, in Late Byzantine times, the complex was converted to domestic purposes. Water inlets were blocked and the greater portion of G.4:5 was cleaned of sediment. High lamp niches were installed at critical points, such as at corners, and low niches for more direct lighting.

When the Umayyads took control of this region the installation was needed for water storage. All but the fine debris and heavy sediment was removed from within the cistern. The vertical shaft of Cistern 5 was partially re-opened and crowned with the dressed round stone from an olive press; then with additional collars as soil built up. At least one building was erected adjacent to the mouth.

'Abbāsīd domination left trace of no changes, only of slight use and then of abandonment.

In Ayyūbid/Mamlūk times this installation was still a serviceable water source. However, numerous other underground depots for wet or dry storage existed in the immediate vicinity, and with the new flourishing occupation, surface accumulations increasingly absorbed and dissipated water away from the G.4 complex. The wide stairway invited the owner to return it to domestic

use. So he cleaned it out and created a somewhat level surface covered with finely pulverized limestone to about 3.00 m. from the far end, where he exposed the cement floor. Later dirt accumulation required another thin floor layer of limestone.

What was the source of limestone bits and chips? Another project, Tunnel G.4:4, which now connected G.4:5 with G.4:2. The level and relatively smooth cave floor gradually accumulated gravel and dirt dropped from the overhead ledge. Later, part of the ceiling fell. A flat slab of *nari* limestone imbedded itself as a partial floor. The floor was completed with large flat stones. An enclosing wall sealed the mouth of the cave, all but the 1.00 m. wide Entrance G.4:1. Accumulation near the entrance required steps leading down into the complex.

By this time all other entrances to the cistern complex had been blocked by infiltration of dirt and stones. Only G.4:5 was preserved for use by the construction of the crude retaining Wall G.4:65. So it remained through abandonment until Ottoman and Modern times.

Little, if any, use was made of G.4:5 thereafter because Tunnel G.4:4 was blocked with stones and rubbish. Finally, Cave G.4:2 was divided into two pens by a low wall. A few cattle were kept in the lower pen, probably during the winter. During summer months the entrance was blocked with stones, the condition in which it was found in 1973.

About mid-season, 1976, the Jordanian Department of Antiquities proposed that the entire cistern-cave complex be cleared and designated as the Heshbon Museum. To this end measurements were taken to install an iron gate to preserve the cisterns from abuse until such time as the museum plans could be realized.

SOUNDING G.13

About 40 m. south-southwest of G.4 and 30 m. west of the southwest corner of the caravanserai, the partially exposed

ancient ruins of a stone and mortar installation lay nestled between a two-room double-domed building and a possibly Roman building, which had a barrel-vaulted ceiling and arched windows almost totally submerged. Both buildings were used to store straw during the winter months. Cleanup and excavation began at the benchmark 868.98 m. The purpose of the sounding was to date and identify the stone and mortar architecture (top level: ca. 872.00 m.) and to date the building with a barrel-vaulted ceiling.

Stratum I: Modern (A.D. 1870-1976)

Description: This Stratum comprised two loci: recent, still bacteriologically active garbage, and below this, moist black topsoil—containing many worms, large rocks, a few bones, Ottoman and Modern sherds and many modern objects.

Interpretation: Extremely high moisture content in the soil illustrated how well suited the architecture in this Square was for collecting water. It gave the stratigraphic context for the transitions from Stratum II to the Post-Stratum II gap, and from the Post-II Gap (Ottoman) to Stratum I.

Strata II-IV: Ayyūbid/Mamlūk (A.D. 1200-1456)

Description (Stratification): Locus G.13:3, a 0.15 m. layer of tan-orange hard chalk mixed with soil, covered most of an occupation layer (G.13:4) embedded with plaster tile bits, chaff, and charcoal. A thin cement layer (G.13:5) occurred totally within the context of G.13:3. In the southwest portion of the Square, away from the originally visible architecture, a possible foundation trench (G.13:6) and wall (G.13:7) were scant signs of intentional construction. Several thick soil layers contained numerous small boulders.

Near the visible architecture, just below its cement Surface G.13:8 was a narrow, shallow (0.25 m.) plastered divider (G.13:15) which opened towards an arched opening (G.13:9). At 0.40-0.50 m. lower were several associated loci: a single-course L-shaped wall (G.13:18) of rather heavy stones; a plaster layer (G.13:19) with embedded charcoal bits in the southwest corner of the Square; possible pavement stones (G.13:21) southeast of Wall G.13:18; an occupation layer (G.13:23); and related loci 22 and 24, all of which were inside L-shaped Wall G.13:18; also two wall fragments, G.13:25 and 27.

Description (Bones): The following bones were found mostly in the upper loci: 22 sheep/goat, 2 cattle, 6 large mammals, 5 chicken, 15 undistinguishable.

Description (Artifacts): The latest pottery from these layers was Ayyūbid/Mamlūk. The following items were registered as objects:

2604	Hook	2612	Glass base
2620	Ring	2614	Bead
2624	Key	2602	Bead
2718	Nail head	2438	Iron fragment
2607	Bronze lid	2613	Glass bead

A large quantity of tesserae and clay tiles were also excavated.

Interpretation: The majority of soil loci were homogenous in texture, frequently distinguished only by architecture which was never distinct enough to suggest specific functions except for the possible small water channel (G.13:15) from the cement Surface G.13:8 to the plastered Archway G.13:9. Architectural remains indicated that this installation was not used for water prior to construction of Channel G.13:15; only during its use was a water route into a reservoir possible. Most of the time the architecture was entirely independent of arched Opening G.13:9, suggesting that the earlier complex was purposely ignored for most of the 10th to 15th century. Probably, since only one bucket contained 'Abbāsid sherds, this lot was abandoned from ca. A.D. 750.

Stratum VI: Umayyad (A.D. 661-750)

Description: Stratum VI loci which were above the plastered or cemented surfaces suffered later intrusions. The upper and outer face of arched Entrance G.13:9 was constructed of small symmetrical rocks with mortar. The inside of the entrance, 2.00 m. high x 0.75 m. wide, had been plastered several times. The upper half of the passageway was cleared for a length of 2.50 m. To the right of this arched entrance and 0.65 m. above its outer face lay a 2.00 m. x 1.50 m. platform, part of the original construction.

Wall G.13:10 (0.30-0.50 m. thick) ran 2.25 m. north-south above and around the arch. Parallel with and between it and a vertical bedrock surface ran north-south stone-and-mortar Wall G.13:11, 0.90 m. wide, surviving 2.15 m. above the arched entrance, to a level of 871.25 m.; it ran 4.50 m. from stone-and-mortar east-west Wall G.13:12 to 1.00 m. from the south balk. Wall G.13:12 (3.40 m. long), survived 0.25 m. higher than G.13:11. Its interior face was once covered with Plaster G.13:13 = 26, the same as the cement on the top, sides and floor of the arched passage and on the face coming down from the platform (connecting with the bases of G.13:11 and G.13:10) and curving to become the bottom of a storage tank which continued under the west balk. The makeup (G.13:29) for the cement basin was of small stones laid over bedrock. On the south side the plaster ran to the west base of the arch of the barrel-vaulted building. Plaster samples were taken for laboratory analysis. There was a 0.50 x 0.50 m. indentation in the tank floor at its southeast corner, which indicates that the plaster never continued farther southeast.

The portion not covered by intact plaster was composed of loose gray soil and small pebbles.

Interpretation: An Umayyad structure, later than the adjacent building, rendered one of its archways nonfunctional. The large number of clay tiles found in Fill G.13:17 was conceivably part of the vertical substructure of the plastered wall. A stack of these tiles remained *in situ* in the build-up next to the vertical plaster G.13:26 on the lower east wall. The plastered floor slanted toward the arched entrance, suggesting that water may have been collected in the tank and drained through the arch into a cistern.

The southeast indentation in the floor, approximately the same width as the Walls G.13:10, 11 and 12, could have been the location of part of the south wall blocking the archway. However, it did not go far enough to allow sealing against the west arch support on the south wall. This remained unexplainable because the plaster disappeared into the south balk at the archway. Further sounding might show continuation into the earlier arched structure. Enclosure Walls G.13:11 and 12 presumably joined two other enclosure walls at undiscerned locations.

Less than 5.00 m. east of Arch G.13:9 lay a similar plastered complex, completely underground, at about the same level as G.13. It was composed of two chambers (one small and rounded, ca. 2.50 m. in diameter; and the other rectangular 3.00 m. x 7.80 m.) connected by an arched passageway of approximately the same height, width, and known length as G.13:9 and finished with a similar plaster or cement on every surface except the vaulted ceiling. This surviving parallel installation may possibly serve as a basis for considering the original design of structures in G.13.

SOUNDING G.15

Downhill, north of the G.4:1 cave entrance, lay the exposed mouth of a partially dirt-filled bell-shaped cistern. Its vertical shaft ran ca. 3.00 m. from a carved capital re-used as the cistern mouth to a bedrock shelf. Two water channels in the bedrock

below were visible where they entered the cistern on the east and west.

The partially exposed top course of an ancient wall ran north-east-southwest (designated north-south for the sake of simplicity), its top at the 851.33 m. level. Sounding G.15 transected this wall ca. 10 m. northeast of the cistern at a point 285 m. from the primary benchmark on the *tell*.

Stratum I: Modern (A.D. 1870-1976)

Description (Stratification): Locus G.15:1, covering the entire 2.00 m. x 5.00 m. Square, slanting ca. 0.90 m. down, toward the northwest, was pale brown (top) soil 0.06 m. to 0.12 deep with primary root growth and fist-sized stones. It covered a portion of Wall G.15:2, all of Wall G.15:8, soil Layer G.15:3 east of Wall 2, and soil Layer G.15:4 (probably Umayyad) west of the wall.

Description (Bones): 58 sheep/goat, 3 pig, 5 large mammal, 1 chicken, 4 cattle, 1 donkey, 20 undistinguishable.

Description (Artifacts): Registered artifacts included:

G.15:1	2637	Horseshoe nail	2654	Ivory needle
G.15:3	2694	Modern buckle	2695	Bronze needle

Interpretation: Ground surface loci were typical. The concentration of bones did not seem unusual. Possibly the upper portion of soil Layer G.15:12 also belonged to this period. The main architectural fragment was certainly below the Modern stratum.

Strata II-IV: Ayyūbid/Mamlūk (A.D. 1200-1456)

Description (Stratification): East of Wall G.15:2, soil Layer G.15:3 lay over Wall G.15:8 = 2. This wall was sealed against by a thick tumble layer (G.15:3, 7 = 9 = 10 = 11 = 12 = 15 = 16 = 19 identical in color and composition) and six soil layers (Loci 17, 18, 20, 23, 25, and 26).

Packed clay Layer G.15:22 covered the entire Square east of Wall 8 = 2. It supported crude semi-circular Wall G.15:21, which abutted Wall 8 = 2 at both ends and contained yellow-red fine clay soil Layer G.15:20.

Ayyūbid/Mamlūk occupation Layer G.15:23 also extended to the eastern limits of the Square. Under it lay first, red-yellow soil Layer G.15:24 (without pottery); then brown clay soil Layer G.15:25, and, finally, brown clay occupation Layer G.15:26, which contained yellow clay particles, charcoal bits and olive pits. Upon it, in the southeast corner of the Square, rested *ṭabun* floor Fragment G.15:30 into which was cut Pit G.15:28, which in turn held fire Pit G.15:27, composed of stones.

Under soil Layer G.15:26 and over bedrock at the 848.01 m. level in the

same southeast corner was Pit G.15:29, also round, 1.00 m. in diameter and 0.60 m. deep.

Description (Architecture): The only intact architecture of this period was Wall 15:8 = 2, which was sealed against by many loci, most containing large, carefully trimmed tumbled stones. The *tabun* fragment, firepit and the crude semicircular wall have been described above.

Description (Bones): All from Locus 7 were 12 sheep/goat, 1 chicken, 1 cattle, 2 undistinguishable.

Description (Artifacts): Registered objects were:

2891	Islamic lamp	2886	Possible stone weight
2881	Mamlūk coin	2865	Slingstone

Interpretation: Only in the sector nearest the cistern did Strata II-IV occupation evidence extend to relatively level bedrock. Considerable occupation, probably domestic, was associated with lower Strata II-IV loci, which contained the only objects in these layers. Proximity to the cistern was undoubtedly an attraction. The dating of the single Mamlūk coin was not clear enough to fix the occupation period more narrowly than the 13th to 15th century. The at-least-seven-course Wall 15:8 = 2 was sealed against by loci of earlier strata, hence was used by Strata II-IV occupation.

The homogeneity of the upper loci suggests that the filling of the cavity between the wall and the cistern took place in a relatively short time, possibly during a single earthquake or other destructive event. If the fill was not deliberate, the cistern mouth might have been blocked and lost, as has happened elsewhere on the *tell*.

On the east side of Wall G.15:8 = 2, except for Pit G.15:29, the sequence of these layers began several stages above bedrock. It may have ended with the placement of the new cistern collar, an old decoratively carved capital with a hole cut through the center large enough to allow water buckets to pass through it.

Stratum VI: Umayyad (A.D. 661-750)

Description: One locus, G.15:4, yielded clear information relevant to this Stratum. It ran west from Wall G.15:8 = 2 to lens out between Modern Locus 15:1 and Late Roman Locus 15:14 about 0.30 m. from the west balk. The soil was light brown clay with limestone inclusions.

Interpretation: Given the preponderance of Umayyad sherds in lower loci east of Wall 15:8 = 2, e.g. G.15:22, 25, one may postulate a subsequent Ayyūbid/Mamlūk contamination of some originally pure Umayyad Stratum VI loci.

Stratum VII: Late Byzantine (A.D. 614-661)

Description (Stratification): Foundation Trench G.15:5, on the west face of Wall G.15:2 (which survived in only two courses) ran the full width of the Square, ca. 0.15-0.20 m. wide and 0.20 m. deep. It cut into G.15:6, a reddish clay layer (similar to Locus 4) which covered the entire west half of Square except for Late Roman Locus 14.

Description (Architecture): Wall G.15:2, surviving in two courses, is dated to this Stratum by its foundation trench (no part of the rubble fill between G.15:2 and G.15:8 was examined). The west face of G.15:2 was made of smaller sized and better cut or less weathered stone than the G.15:8 face.

Description (Bones): The loci contained the following bones: 1 sheep/goat, 1 cattle, 2 scrap.

Interpretation: The G.15:2 wall face was later than its counterpart, which extended a full five courses below it. The difference in weathering was little or no indication of greater age. It seems unlikely that a single wall would be built with one high foundation trench and no lower foundation trench. It is likely that both G.15:2 and 8 originally had more courses upon them, but were robbed out later.

Strata VII-XIV: Byzantine (A.D. 324-661)

Description: Surface G.15:31 was a pale brown soil (0.07-0.10 m. thick) with small stone inclusions. It disappeared under Wall G.15:8, which rested upon it. Wall G.15:8 survived seven courses high, rising 2.65 m., the upper 0.71 m. of which was faced on the west by Wall G.15:2. Rubble fill connected the two faces creating a wall 1.10 m. thick. The thickness of the wall below level 850.56, the bottom of G.15:2, was not determined. The latest associated pottery was with some uncertainty classified Early Byzantine with Late Roman dominant.

Interpretation: If Surface G.15:31 was indeed Early Byzantine, belonging to Strata IX-XIV, and the secondary face belonged to Late Byzantine Stratum VII, G.15:8 could have been built in either period. In any case, the paucity of occupation layers suggested comparatively little activity here. This was hardly a Byzantine wall because Late Roman strata appeared outside

it less than a meter from its top surviving level. It could have been a retaining wall, dressed on the outside with G.15:2, built possibly to prevent collapse into a thoroughfare or into a courtyard where a cistern was.

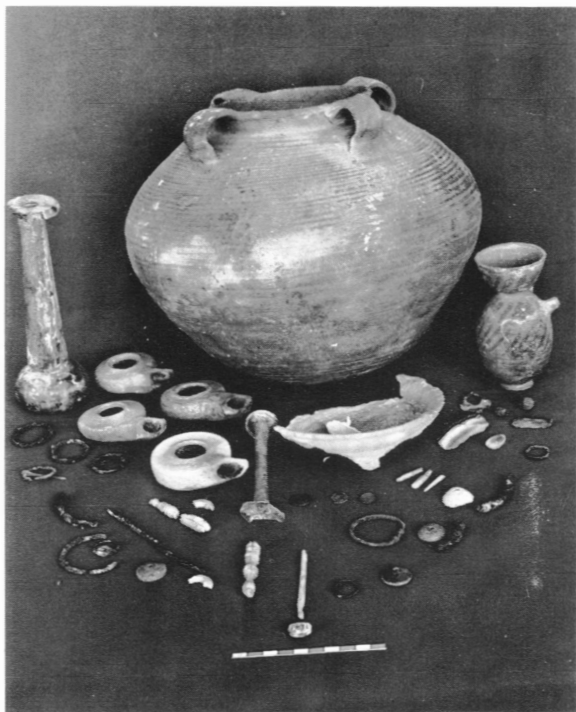
Strata XV-XVI: Late Roman (A.D. 135-324)

Description: Six loci are involved here, two west and four east of Wall G.15:8 = 2. Hard-packed Locus G.15:13 was not excavated except for the one pail of Locus 6 pottery. Locus G.15:14 was a loosely packed pit with the characteristics of a foundation trench.

On the east side of G.15:8 = 2, a layer of red-yellow soil and clay became Locus 33, rubbly with clay inclusions. Beneath these was Surface G.15:34, a strong brown clay/sand compound with a few stones, covering plaster Layer G.15:35, a pale brown *huwwar* and sandy substance remaining only in irregular patches upon G.15:36, bedrock. The latest pottery was probably Late Roman IV, with Late Roman I, II, and III more clearly and abundantly represented.

Interpretation: Late Roman Locus 6 in the west half of the Square ran beneath Byzantine Wall G.15:2. Since Wall G.15:8 was not yet constructed we must presume a very steep drop (1.50 m. vertical drop in 1.25 m. horizontal distance) from G.15:13 on the west to G.15:32 on the east half of the Square, or an earlier, thinner wall (from the present evidence the only reasonable alternative).

The plaster (G.15:35) used to level irregularities in Bedrock G.15:36 was a luxury hardly warranted by a thoroughfare or even a courtyard. A more reasonable hypothesis was that this sounding came upon a domicile whose west wall retained the great amount of soil accumulation now on the west side. That Late Roman layers were so high there suggested a long period of time elapsed under these circumstances. On the east uphill side there was ample space to have allowed the domicile to open onto a courtyard or a thoroughfare between the Area F cemetery and the acropolis itself.



A. Pottery and objects from Tomb F.31. See Pl. XIX:A for close-ups of scarab. Photo: Paul H. Denton.

B. Square G.4. View to south. Looking down long axis of cistern past Loci G.4:5, 6, 8. Photo: Paul H. Denton.

