

## SURVEY OF PPNB STRUCTURES AT 'AIN GHAZAL

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### Introduction

In March 1982 a survey was conducted to identify, describe, and record PPNB structures exposed in roadcuts and bulldozer terraces at Ain Ghazal. Summary descriptions of each structure are provided below.

Several details of the architecture noted during the survey are redundant from structure to structure. Although some instances were noted in the sections that resembled decayed mudbrick (*libn*) (H. Franken, personal communication), there was no clearcut evidence that this material was used consistently for wall construction. Instead, all walls were constructed of undressed stones set in mud mortar. Based on the results of the excavations this season, the interior surfaces of the walls were coated with a layer of mudplaster and finished with a thin *laminum* of fine white plaster which was sometimes coloured with red ochre.

In almost every case floors were made of fine lime plaster (often mixed with gravel) with a final finish of highly burnished lime plaster. The finishing of the floors was generally characterized by the addition of pulverized red ochre and fine clay, producing a result very similar to highly sophisticated portland cement (F. Koucky, personal communication).

In many cases, as noted below, floors were replastered one or more times, with "repairs" extending across the entire surface. Often this repair work appears to correlate with subfloor burials, although more excavation is necessary to substantiate this hypothesis.

### Walled Commercial Compound

Nine buildings were located in a commercial compound cut into the southern section of the site. Because of the

nature of the construction in this area, as well as on-going commercial activity, it was not possible to determine precise locations for the PPNB structures in this part of the site. The positions of the buildings in this section in (Pl. XCIX, 1-2) (Rollefson, this volume) are approximate.

#### Structure 1:

- (S1). North-south running wall which disappears into the west and south baulks of the bulldozer cut. This is evidently the west wall of a building with a plaster floor which bore no evidence of the use of red ochre. Floor thickness ranges from 0.04-0.06 m., with one possible repair. Wall stands to *ca.* 1.40 m.; length of exposed structure is *ca.* 7.00 m.
- S2. Located approximately 11.00 m. north of S1.
- Traces of two stone walls with a 0.04-0.06 m. thick plaster floor running N-S between them. Length of structure is *ca.* 4.50 m.
  - Remains of a packed mud surface (floor?) approximately 2.00 m. in length occurs 0.10-0.15 m. below the floor in a), not associated with any visible walls.
- S3. Located *ca.* 1.00 m. north of S2. N-S running wall *ca.* 8.00 m. long standing *ca.* 1.40 m. high. Associated with two floors:
- Upper floor *ca.* 0.6 m. thick with one possible repair. No evidence of red ochre.
  - Lower floor *ca.* 0.25 m. below the Upper floor, in very poor condition. Possibly one or more repairs. No evidence of red ochre. Thickness undetermined (at ground

level).

- S4. Located *ca.* 25.00 m. north of S3. N-S running wall abuts with E-W wall on south end. N-S wall *ca.* 2.00 m. long and 0.40 m. high; E-W wall *ca.* 0.50 m. wide and 1.20 m. high. No floors visible in the section.
- S5. Located approximately 1.00 m. north of S4. An E-W wall of obscured dimensions stands at least 0.50 m. high, at the southern end of a 2.00 m. length of plaster floor *ca.* 0.10 m. thick. At least three repairs in this floor, at least two of which bear a red ochre finish.
- S6. Located 1.50 m. north of S5. Remnants of a N-S wall *ca.* 2.40 m. long, standing 1.60 m. high. No associated floors visible in the section.
- S7. Evidently a SE corner of a building, with one wall running into the north section, the other into the west section. The latter wall may abut or bond the wall in S6. Height of both walls is approximately 1.00 m. No floors visible in the section.
- S8. Located *ca.* 1.00 m. east of S7. A single wall running into the north section, *ca.* 0.50 m. wide and 0.65 m. high. No floors visible.
- S9. Located *ca.* 1.50 m. east of S8. Wall parallel to S8, *ca.* 0.50 m. wide and 1.50 m. high. No associated floors visible. It is possible that S8 and S9 are walls of a single structure.

### Parking Lot Area

Structures visible in this and other sections of the site could be located according to our 5.00 x 5.00 m. grid system.

- S10. (Sqs 3445/3645). E-W wall 2.50 m. long, 1.20-1.30 m. high. Possibly the north wall of a building. No floors visible.

- S11. (Sq 3645). Fallen wall lying on its thin white plaster facing. Length of fallen wall 2.50 m. No floor visible, but there is a "pebble pavement" located *ca.* 0.80 m. below the fallen wall. (This could be a stabilized erosional surface).
- S12. (Sqs 3846/4046). NE corner of a building, with one wall running into the south section, the other into the west section. Height of both walls *ca.* 0.50 m. Small exposure of a plaster floor *ca.* 0.08-0.10 m. thick visible in the corner. No evidence of red ochre.
- S13. (Sq 4246). Small exposure of a poorly preserved plaster floor. Southern wall is *ca.* 0.40-0.45 m. thick; the mud mortar has changed to an orange-pink colour by fire. The northern wall is poorly preserved, but stands *ca.* 1.25 m. high in places. The two walls may represent the SE corner of a building.
- S14. (Sqs 4046/4246). Possibly part of S13. Exposure of a 0.04 m. thick plaster floor finished with red ochre. North wall is severely damaged.
- S15. (Sqs 4247/4248). Southern E-W wall 1.20 m. high and *ca.* 0.45 m. thick. Only traces of a northern wall remain. Between them is a 0.14 m. thick floor with at least three repairs. All phases of this floor were finished with red ochre. Length of structure: 7.40 m. *Note:* this building may be associated with the manufacture of polished stone bracelets.
- S16. (Sq 4249). Southern E-W wall is quite thick (0.80 m.) and may be two abutting walls; height 1.00 m. Northern wall is also thick (0.77 m.), standing 0.82 m. high. The mud mortar in the latter wall has changed to an orange-pink colour due to fire. Between these walls is a series of three floors:  
a) Upper floor. 0.055 m. thick, 1.13 m. long. At least one repair. Both surfaces finished with red ochre.

- b) Middle floor 0.40 m. below the upper floor, 0.13 m. thick and *ca.* 1.00 m. long. Two repairs; all surfaces finished with red ochre.
- c) Lower floor *ca.* 0.50 m. below the middle floor. Short exposure (0.30 m.), 0.6 m. thick. Finished with red ochre.

Because the distance between the walls is so small (1.70 m.), it is possible they represent the NE corner of a building. The lowest floor may not be associated with the walls.

- S17. (Sq 4250). The southern wall of this structure is the northern wall of S16. The northern wall of S17 is 0.45 m. thick and 1.31 m. high. A plaster floor 0.13 m. thick and 2.86 m. long extends between the two walls. The floor, finished with red ochre, has at least two repairs. *Note:* S16 and S17 are probably two rooms of a common building. The floor in S17 appears to be contemporary with the middle floor of S16.
- S18. (Sqs 4250/4251). N-S running wall (the western wall of a building) 4.55 m. long and *ca.* 0.80 m. high bonds with a small exposure of an E-W wall that runs into the west section on the south. Two floors are visible:
- a) Remnants of a 0.06 m. thick plaster floor finished with red ochre. Length undertermined.
  - b) Remnant (0.75 m. long) of a 0.03 m. thick plaster floor finished with red ochre, *ca.* 0.45 m. below the upper floor. *Note:* remains of a child burial found in the SW corner of this building, but due to severe damage by a bulldozer, it cannot be determined definitely with which floor it is associated. However, although the upper floor is poorly preserved, the thickness suggests a repair, often associated with subfloor burials.
- S19. (Sqs 4452/4454). A "building complex" 15.00 m. long with four rooms. Southernmost wall 0.69 m. thick, the northernmost wall at least

0.60 m. thick (partially obscured); interior walls of comparable thickness. The southernmost room is 5.50 m. long between the walls; south central room is 2.50 m. long; the north central room is *ca.* 3.50 m. long; and the northernmost room is 2.50 m. long between the walls. A single floor exists in each room, varying from 0.04-0.10 m. in thickness, with at least one repair in all rooms. Red ochre finish evident in all but the northernmost room.

- S20. (Sqs 4454/4455). Three plaster floors adjacent to S19. (Possibly a fifth room of S19?).
- a) Uppermost plaster floor is poorly preserved, dimensions not determinable.
  - b) Middle floor also poorly preserved, 0.05 m. thick and 0.97 m. long. This floor is possibly contemporaneous with S19.
  - c) Lowest floor appears only as remnants in the section, dimensions not ascertainable.
- None of the floors bears evidence of the use of red ochre, but it must be emphasized that all are severely damaged. Approximately 2.50 m. north of the northern wall of S19 is a plaster-lined pit filled with fine ash, although it is located in the center of a large ash filled deposit. This jug-shaped plaster feature is 0.37 m. wide, 0.44 m. deep, with walls 0.06 m. thick. *Note:* a sub-adult burial was excavated from beneath the middle floor, but it may not be associated with this floor since it was an extended burial in an ashy rubble deposit.

S20A. (Sq 4455). A wall 0.60 m. wide and 0.40 m. high north of the floors and plaster feature may be associated with either the upper or middle floor, although neither floor runs up to the wall.

S21. (Sqs 4457/4458). A N-S running wall located high in the bulldozer cut. Stands up to 1.00 m. high at the

southern end, but is badly preserved to the north. Length: 4:00 m.

**Stone Pavement.** (Sq 4457). Large, flat, and angular stones along a level stretch extend approximately 5.00 m. No other structures appear to be associated with this feature. (S21 is located more than a metre above the pavement and was constructed after a period of severe erosion and deposition that covered the pavement).

- S22. (Sq 4460). Remnants of a poorly preserved southern E-W wall, dimensions not discernable. Associated with remains of a plaster floor 0.06 m. thick and 1.10 m. long, finished with red ochre. The floor was repaired at least twice.
- S23. (Sq 4462). Southern wall 0.60 m. thick and 1.55 m. high. Northern wall is badly damaged but quite thick: *ca.* 0.90-1.00 m. No floors were visible between the two walls. Distance between the walls is 4.80 m.
- S24. (Sqs 4462/63). Possible collapsed wall high in the section, running N-S for 2.50-3.00 m. No visible floor. Does not appear to be associated with S23.

Structures S21-S24 are all located high in the bulldozer cut and appear to be later in date than the other buildings in the parking lot area. They also occur in and above heavy concentrations of ashy rubble deposit, a phenomenon that begins in the area of S20. It should also be noted that north of S20 the underlying Pleistocene deposits are quite undulating in contrast to the flatter and more regular surface in the southern area of the parking lot. The floors of "building Complex" S19 are heavily buckled and sinuous, attesting to either severe mudslides or earthquakes after the construction (and the possible reason for abandonment?).

#### **Southern Highway Cut**

Although dense ashy deposits and

artefact scatters characterize the road cut east of the parking lot, only one structure was visible in the section.

- S25. (Sqs 2864/65). A thin (0.02-0.04 m.) plaster floor extends for just more than 1.50 m., but no associated stone walls are visible. No evidence of the use of red ochre.

#### **Central Highway Cut**

- S26. (Sq 3067). Bulldozers removed all traces of the southern wall(s), and severe erosion in antiquity obliterated the northern wall(s) of this structure. A series of three floors is visible.

- a) Upper floor 0.08-0.10 m. thick with two repairs. Extensive use of red ochre. Sunken plastered fireplace. Length *ca.* 2.40 m.
- b) Middle floor *ca.* 0.50 m. below the upper floor. *Ca.* 0.07 m. thick, with one repair. Extensive use of red ochre. Sunken plastered fireplace.
- c) Lower floor 0.13 m. below middle floor, 0.07 m. thick with two repairs. Extensive use of red ochre. Sunken plastered hearth.

*Note:* One burial pit appears to exist beneath the far southern end of the lower floor.

- S27. (Sq 3068). Southern wall 0.60 m. thick, 0.60 m. high. Only traces remain of a northern wall. A plaster floor 0.07 m. thick and 4.30 m. long between the walls. One floor repair. Extensive use of red ochre.
- S28. (Sq 3069). Only a short section (1.25 m.) of a 0.07 m. thick plaster floor is visible, one repair. No evidence of red ochre.
- S29. (Sq 3069). Located to the north and higher in the section relative to S28. Thick plaster floor (0.12 m.) with up to four repairs, length 1.50 m. Extensive use of red ochre.

- S30. (Sqs (3070/71)). Only remnants

- m. thick. Between them is a plaster floor section, 0.015 m. long and 0.06-0.07 m. thick, with one repair and no apparent use of red ochre.
- S49. (Sq 3499). Two plaster floors with no associated stone walls.
- a) Upper floor is thin, with some use of red ochre.
  - b) Lower floor is also thin, some 0.50-0.60 m. below the upper floor.
- Note:* Due to the position of these floors high in the cliff face of the bulldozer section, further details were not obtainable.
- S50. (Sq 3703). South wall is 0.50 m. thick and *ca.* 1.00 m. long; northern wall is 0.85 m. high and 0.60 m. wide. Badly damaged plaster floor with red ochre finish is 0.08-0.10 m. thick (with one possible repair) and at least 1.40 m. long. Possible human burial in the area (surface bones downslope were human).
- S51. (Sq 5319). Few details were obtainable due to the location of this structure high above a precipitous road cut. Stone walls are visible as well as extensive use of red ochre.
- S52. (Sqs 5319/5320). For the same reasons as S51, little information was obtainable beyond noting traces of walls and a relatively thick floor with extensive use of red ochre (based on plaster chips found below along the road cut).
- S53. (Sq 3120). Southern wall is extremely thick (0.96 m.) and stands 0.80 m. high. The northern wall is 0.67 m. thick and 0.50 m. high. A plaster floor *ca.* 0.07 m. thick with one repair and finished with red ochre extends for 1.65 m. between the walls. This is evidently the SW corner of a building. A burial was excavated from beneath the floor near the SW junction of the floor and southern wall (Pl. XCIX, 2).
- S54. (Sq 3122). No walls were visible in this section, but a thin (0.03 m.) undulating plaster floor extended for 1.44 m. No evidence for the use of red ochre.

### Summary and Observations

Fifty-four buildings were noted in the survey, some of which may have been components of common structures (e.g. S8 and S9, S16 and S17, S19 and parts of S20, etc.). Floor elements in these structures add a measure of complexity in terms of the contemporaneity of occupations: Seventy-one separate floors are scattered among the fifty-four buildings (several of which have no associated floors). In thirteen areas the same location was used at least twice for subsequent inhabitation, and in the case of Sqs. 3073/3273, six major occupational episodes are evident.

The pressures involved in the salvage nature of this season's work precluded the use of a theodolite to determine absolute elevations of floors and wall bases in this survey. Such information would have been useful for establishing at least a rough stratigraphic correlation for many of the structures. Enough time is available for future determinations of these values which, coupled with controlled excavation sampling, will provide much more useful data than were obtainable under the limitations of the 1982 season.

Some subjective generalizations can be made on the basis of the present evidence, however, although they are tentative and require substantiation in future excavation.

### Northern Highway Cut

Much of the surface of the area in this triangular section between the E-W road cut, the highway cut, and the NW-SE highway cut was removed to bedrock, yet a section of archaeological deposits of an ashy gray colour are deep and extensive all the way to the interchange overpass. Surface artefacts are PPNB, as well as the details of architecture and burial practices noted in a cut created for a water pipe.

1) Although floor thicknesses are quite variable, it appears that the common thickness for unrepaired floors centres between 0.03 and 0.04 m. It is possible that the earliest inhabitants at 'Ain Ghazal made even thinner floors, averaging 0.02-0.03 m. in thickness.

2) Unrepaired floors thicker than 0.06 m. are rare, at least in those structures built directly atop undisturbed Pleistocene clay. Floors in the Upper Bulldozer Section, Central Highway Cut (S41-S47), presumably later in part than the buildings in the lower section (S26-S40), are generally thicker, but this may be due to the thick rubble "floor foundation" on which the plaster was spread.

3) Where stratigraphic relationships are distinct (especially S32A-S32B and S39-S39A-S40), it is clear that the earliest floors are very thin compared to later constructions. Although these earliest floors are poorly preserved, there is no evidence of the use of red ochre or of the sophisticated, highly burnished portland cement finish.

4) Dimensions cited in the summary descriptions should be treated with great caution. In some cases, walls which were interpreted to relate to exposed floors did not, in fact, touch them, so some of the extreme dimensions mentioned above may be inaccurate. On the other hand, wall lengths of 8.00 m. (e.g., S3) do occur.

5) Another factor concerning structure dimensions should be raised at this point. Although several rectangular structures excavated this season (especially S32A, S39, and S40) were aligned in an approximate N-S direction, other buildings had other orientations (cf. S13 and S46). Since diagonal measurements across corners would reflect misleading dimensions, this factor must be kept in mind. Nevertheless, even if the principal axis of the S19 complex were not coincident with the exposure along the bulldozer cut, the building would still have minimum dimensions of 10.00 x 11.00 m. if the 15.00 m. was measured on the diagonal (larger dimensions if S20 is included).

6) Several instances of multiroomed structures are evident in the exposures (especially S19), a construction technique

confirmed by the excavations in S40 (See 'Ain Ghazal preliminary report, this volume). The presence of possible single-room buildings at the site cannot be determined on the basis of the present data, whether from this survey or from the excavation sample.

7) There is some evidence to suggest that the buildings at 'Ain Ghazal cluster into two or three (or more) groups. A number of facets of three-dimensional site geography remain to be tested on this score, however, especially the natural stratigraphic relationships of the buildings.

If the positions of S21-S24 high in the parking lot area can be attributed to a later period than those buildings farther to the west (which is a complicated issue in view of the contours of the Pleistocene substratum in this vicinity), three general clusters emerge: The Southern Cluster includes S10-S20; the Central Cluster is comprised of S26-S48 (and possibly S25); and a poorly defined Northern Cluster is made up of S49-S54. The association of S1-S9 with the rest of the site is not entirely clear, although presumably they would relate to the Southern Cluster if they do not constitute a separate cluster by themselves.

If these clusters are real in a contemporaneous sense, the implications are difficult to assess. Presumably they could reflect socio-cultural distinctions among the inhabitants, perhaps based on kinship. The relatively large numbers of polished stone bracelet fragments found near S15 could indicate economic specialization, an interpretation supported by the near-industrial proportions of ashy deposits that dominate the space between the southern and Northern Clusters.

8) The S19 complex does not appear to have any parallels at other PPNB villages in the Near East. Artefacts collected from the surface near this structure were not diagnostic enough to indicate the function of the building, but the sheer size of it compared to other structures at the site suggests some public role in the community.

This survey has demonstrated the density of domestic and possibly public buildings throughout six or more major

remain of a southern wall, and the northern wall is also severely damaged. Two floors are associated:

a) Upper floor is 0.08 m. thick with one repair and no evidence of red ochre. Length 4.30 m.

b) Lower floor is thin (2.5 cm.) 0.25 m. below upper floor. Extends under the southern wall. No evidence of red ochre.

S31. (Sqs 2871/3071). Southern wall is severely damaged, and only traces remain of the northern wall. Thick plaster floor (0.10-0.12 m.) with at least one repair and extensive use of red ochre. Floor extends for 4.30 m. *Note:* a cache of 84 blades (no tools) was found under the floor, but no evidence of a pit cutting through the earliest phase of the floor was visible.

S32A. (Sqs S3072/73). The earliest evidence of construction in this complex is a thin (0.02-0.03 m.) plaster floor with no evidence of red ochre. No walls associated with this floor, which is 1.65 m. long.

S32B. S32A was cut for the construction of a house 6.15 m. long. Southern wall is *ca.* 0.45 m. thick; the northern wall is barely detectable. N-S running western wall stands a metre high in places. All walls were covered with mud plaster and finished with white plaster stained with red ochre. Post molds at the south and north ends as well as the centre of the western wall. Two floors associated:

a) Upper floor is 0.02-0.03 m. thick with spattered use of red ochre.

b) Lower floor is 0.60 m. below the upper floor. Similar thickness and designs.

Both floors used the same walls and posts.

S32C. Located approximately 1.00 m. above the upper floor in S32B. Thin (*ca.* 0.03 m.) plaster floor

with extensive use of red plaster. Curbed plaster feature near the centre of the floor extends under the western baulk; function is speculative, but it resembles a drain. No walls in association.

S33. (Sqs 3074/75). Two-roomed structure 5.70 m. long. Southern wall 0.60 m. thick and poorly preserved; centre wall 0.48 m. thick, 0.50 m. high; northern wall 0.40 m. thick and 1.40 m. high. Distance between south and centre wall is 0.90 m.; between centre and north walls 3.70 m. Plaster floor extends *under* all three walls, 0.08-0.12 m. thick with two repairs. Extensive use of red ochre. (Pl. XCIX, 1).

S34. (Sq 3076). Only traces remain of the southern wall; the northern wall is not visible. Plaster floor 4.75 m. in length, up to 0.12 m. thick with at least one repair. Possible replastered sunken fireplace. Extensive use of red ochre. *Note:* burial excavated from the southern end of the structure.

S35. (Sq 3077). Southern wall 0.50 m. thick and 0.70 m. high; only traces remain of a northern wall. One plaster floor (one repair) extends 5.50 m., 0.06 m. thick. No evidence of red ochre.

S36. (Sqs 3078/79). Southern wall 0.75 m. thick; only traces remain of a northern wall. An 0.08 m. thick plaster floor with one probable repair extends 5.70 m. No evidence of red ochre.

*Note:* Burial excavated from beneath the southern end of the floor.

S37. (Sqs 3079/80) Only two stones remain of a possible southern wall; northern wall is also severely damaged. A plaster floor 0.08 m. thick (with at least one repair) extends 5.20 m. Use of red ochre is not intensive.

*Note:* Four sunken plastered

fireplaces associated with four sub-floor burial pits, three of which were excavated.

S38. (Sqs 3080/81). Only traces of a southern wall exist, and the northern wall appears to have been completely destroyed. Traces of a 0.05 m. thick floor are visible, as is the use of red ochre. A pit exists beneath the floor, although it is not clear if this is a subfloor burial or simply a feature antedating the construction of S38.

S39. (Sq 3082). Possible southern wall is very obscure, but northern wall is 0.50 m. thick and stands 0.60 m. high. Plaster floor 6.30 m. long, up to 0.12 m. thick with one repair. Extensive use of red ochre on both surfaces. Two super-imposed sunken plastered fireplaces associated with two burial pits (one excavated) near southern end of floor.

S39A. (Sqs 3082/83). A thin (0.02-0.03 m.) plaster floor extends for more than 0.60 m. cut by the construction of S39 and S40. No evidence of the use of red ochre. Analogous to the floor of S32A.

S40. (Sq. 3083). Two-roomed structure. See 'Ain Ghazal preliminary report, this volume.

#### **Upper Bulldozer Section, Central Highway Cut**

S41. (Sqs 3267/68). N-S running wall 0.40 m. high, 4.25 m. long. No floors visible.

S42. (Sq 3272). No walls are visible associated with a small section of a plaster floor that extends 1.00 m., thickness 0.06 m. One repair of the floor, both surfaces with red ochre finish. Another floor, poorly preserved, appears to exist approximately 0.10-0.15 m. below.

S43. (Sqs 3274/75). N-S running wall up to

0.80 m. high, broken in several places, extends for more than 2.00 m. No visible plaster floors visible in association, although a stabilized surface under a thick deposition of rubble exists.

S44. (Sq 3278). Only traces of a southern wall exist, but 3.00 m. to the north is a wall 0.45 m. thick that stands 0.45 m. high. Between them is a plaster floor with one possible repair (0.09 m. thick). Heavy ash accumulation on the floor near the northern wall. No evidence of red ochre.

S45. (Sq 3279). Only traces of possible southern and northern walls exist. Plaster floor up to 0.06 m. thick has one repair and extends 4.20 m. Use of red ochre is evident but not pronounced. One sunken plastered (and repaired) fireplace is evident just north of a robbed-out sub-floor burial (some human ribs and vertebrae are visible in a scooped-out pit beneath *ca.* 3.00 m. of overburden).

S46. (Sqs 3283/84). A wall running SW-NE is 0.60 m. high and *ca.* 3.00 m. long. To the north in the section is a wall 0.53 m. thick and 0.40 m. high. Between the walls is a plaster floor 4.00 m. long and 0.05-0.06 m. thick with some use of red ochre. Distance between the two walls is 8.70 m. *Note:* It is possible that the SW-NE wall is not associated with the northern wall and floor.

S47. (Sq 3284). Possibly a room of S46, since a plaster floor appears to be associated with the northern wall of that structure. The floor is very poorly preserved, up to 0.06 m. thick with one possible repair. Use of red ochre is evident. Some stones to the north of the floor sections may be a collapsed northern wall of the room.

S48. (Sq 3287). A N-S running wall is 3.85 m. long and badly damaged. A northern wall is 0.70 m. high and 0.44



phases of occupation at 'Ain Ghazal. But the information retrieved during this facet of the investigations at the site is only a first step in the process of extracting the

wealth of prehistoric data still contained in the deposits on the banks of the Wadi Zarka.

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