

# Tell Ziyada: The First Three Seasons of Excavation (1988–1990)

GIORGIO BUCCELLATI  
DANIELA BUIA   STEPHEN REIMER<sup>1</sup>  
University of California, Los Angeles

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Tell Ziyada est un site qui se trouve dans la zone de sauvetage de la moyenne vallée du Khabour. Jusqu'à maintenant, il a fait l'objet de trois campagnes de fouilles, en 1988–89–90, dont les résultats sont décrits dans ce présent rapport. Dans le niveau le plus inférieur, daté de l'époque d'Halaf-Ubaid, un four de potier circulaire en briques crues avec toit voûté a été découvert; il était encore rempli de vaisselle. Il aurait été détruit par une éruption volcanique du Djebel Kaukab à 12 km de là puisque tout ce niveau est scellé en quelque sorte par une épaisse couche de cendres grises dure comme du ciment. Par dessus, ont été construites des installations domestiques attribuées à l'époque d'Uruk. Le dernier niveau d'occupation, qui remonte au début du III<sup>ème</sup> millénaire, a produit, entre autres structures, un grand édifice aux murs épais dont l'espace intérieur est subdivisé en petits cubicules; il a été interprété par les fouilleurs comme un grenier. Cette découverte est déterminante car elle fait de Tell Ziyada, au cours de l'époque dite de Ninive 5, un site spécialisé dans la cueillette et le stockage de grains cultivés dans les plaines des alentours à l'instar d'autres sites de la moyenne vallée du Khabour. La présence d'un glacis autour de la colline démontrerait l'importance accordée à ce dépôt à cette époque. Les auteurs pensent que les installations publiques de Ziyada auraient été érigées par un gouvernement central fort dont le siège aurait pu se trouver dans un grand centre urbain à proximité comme Tell Brak.

French Summary by Michel Fortin, Université Laval, Québec

## PART 1: INTRODUCTION

Giorgio Buccellati

### 1.1 The IIMAS excavations at Tell Ziyada

Excavations at Tell Ziyada were started in 1988 under the auspices of IIMAS — The International Institute of Mesopotamian Area Studies. Ziyada was the latest of four archaeological projects undertaken by the Institute, all having as their aim the study of the Middle Euphrates and Khabur basins during the late prehistoric and early historic periods. The sites in question are Terqa and Qraya in the south, Mozan and Ziyada in the north. Excavations at

<sup>1</sup> The first two parts of this paper (by Buccellati and Buia) were first presented at the Symposium 'Lost Civilizations of the Desert: Recent Archaeological Research in Third Millennium North Syria', held in Toronto on September 22, 1990. We are grateful to Prof. Michel Fortin for organizing at this timely juncture a symposium on the Khabur salvage project, and for inviting us to participate in it. A fuller report of our excavations will be published in *Syro-Mesopotamian Studies*.

Ziyada were begun in response to the call by the Syrian Directorate General of Antiquities and Museums for assistance in mitigating the impact of the projected dam on the Khabur. Our choice of Ziyada was in line with our specific interest in obtaining a better understanding of (a) the cultures which preceded the major occupation of Mozan in the third millennium, and (b) the interaction between the rain-fed Khabur region and the river/steppe environment of the Khana region.

The site was chosen after a number of reconnaissance trips to the area, undertaken between 1983 and 1986. Besides the present writer [Giorgio Buccellati], the other principals involved were Marilyn Kelly-Buccellati, Guy and Arlette Bunnens, Mario Liverani, and Ismail Hijara. The latter, together with Daniela Buia, made a detailed surface survey of Ziyada in 1986, following which I submitted a permit request to the Directorate General in Damascus. It was then that we learned that the site had been already assigned to Dr. Adnan Bounni, but that he had in the meantime decided not to excavate there. Thus not only were we able to obtain the per-

mit, but we also benefitted from some detailed notes on the site and its surface collections which Dr. Bounni and Mr. Michel Makdisi had put together in preparation for their work at the site, and which they very kindly put at our disposal. For both the official and the scholarly assistance which characterized our beginnings at Ziyada I wish to express here my warmest appreciation.

Our first activity at the site was a topographic survey conducted in 1987 by Stephen Hughey, the surveyor of the Mozan Archaeological Project. Three seasons of excavation followed: the field directors were, respectively, Daniela Buia<sup>2</sup> in 1988<sup>3</sup> and 1989,<sup>4</sup> and Stephen Reimer<sup>5</sup> in 1990.<sup>6</sup> On the basis of the results obtained, and for reasons that I will outline briefly below, I intend to continue our commitment at the site for at least three more seasons, since under current conditions the projected schedule for the completion of the dam will allow for the additional time.

Our deepest thanks go to the two Directors General of Antiquities and Museums under whose tenure the project was planned and started, Dr. Afif Bannassi and Dr. Ali Abu-Assaf, as well as Dr. Adnan Bounni, Director of Excavations, who, besides contributing his archaeological expertise, provided as usual the full support of his staff in preparing for the project. We also wish to thank Mr. Kassem Toueir, Director of the Department of Research, and Mrs. Loris Shahla, who helped in a number of logistic matters. Thanks are also due to Mr. Jean Lazar, Director of the National Museum offices in Hassaka,

and to his staff, without whose constant help and guidance excavations at Tell Ziyada would not have been possible.

A substantial contribution towards our first three seasons was made by the Los Angeles County Museum of Natural History. I wish to record here my special appreciation to its Director, Dr. Craig C. Black, who has spearheaded the development of the Museum in the direction of a greater involvement with Near Eastern archaeology, and who has personally been especially receptive when we first submitted to him the proposal for an expedition to Ziyada. Funding for the Ziyada expedition has also come from the Ambassador International Cultural Foundation, as a part of its long-standing support for the archaeological activities of IIMAS in the field of Near Eastern archaeology. To Mr. Joseph W. Tkach, President of the Foundation, and to Dr. Herman Hoeh, goes my warmest expression of gratitude.

## 1.2 Goals and implications of the first three seasons of excavation

The major portion of the present article is taken up by a detailed substantive report on the excavations, given by the respective field directors of the first two and of the third seasons — Daniela Buia and Stephen Reimer, respectively. By way of introduction I wish to articulate the major goals which motivated the initial phase of our work (namely the three seasons which we have just completed), and to outline the broader historical implications brought out by the excavations. These are, at the same time, the considerations which have led to my decision to continue our archaeological involvement at this small site beyond the limit of three years which we had set initially for ourselves.

Judging from surface materials, we had expected that the occupation of the site would date primarily to the Halaf period, hence our initial goal was to test the size and extent of this presumed Halaf occupation. We were amply rewarded by the discovery of important Halaf/Ubaïd strata, which yielded at the same time two unexpected results. First, two structures from these strata appear to have been preserved particularly well, *up to their roofing*, and to be overlaid by a distinctive ash layer. Second, the Halaf/Ubaïd strata were found no higher than about mid-slope on the tell, and were overlaid by *significant third-millennium strata*, larger in size and more complex in nature than the small scale of the settlement would have led us to believe. As a result of these conclusions our goals, which had initially been to establish the nature of what was supposed to be a modest Halaf period settlement, were revised to

<sup>2</sup> One of my graduate students at UCLA, Daniela Buia is currently completing her Ph.D. dissertation on the ceramic assemblages of Terqa.

<sup>3</sup> Besides Daniela Buia as Field Director, the staff included Francis Deblauwe and Giuseppe Calcagni. Giorgio Buccellati and Marilyn Kelly-Buccellati participated in the planning and evaluation of the excavations with periodical visits to the site.

<sup>4</sup> Besides Daniela Buia as Field Director, the staff included Sharryn Crane, assistant Field Director; Russell Duke, archaeologist; Phyllis Duke, registrar; Anthony Mathys, archaeologist/osteologist; Francis Deblauwe, archaeologist/paleozoologist; Giuseppe Calcagni, manager; Laura Gault, photographer; and students Fan-Xi Xu, Helen Marie Lobpreis, Daniel Reedy, David Webb, Sharon Lilleboe, Michael Rochelle, Stephanie Smith, and Stephen Allen. Giorgio Buccellati and Marilyn Kelly-Buccellati participated with a detailed evaluation of the excavations at the end of the season.

<sup>5</sup> One of my graduate students at UCLA, Stephen Reimer is currently working on his Ph.D. dissertation on Tell Qraya, where he has served as Field Director.

<sup>6</sup> Besides Stephen Reimer as Field Director, the staff included Daren Clayton, photographer; Jared Miller, registrar; and students Didier Richoux and Bryan Tyson. Giorgio Buccellati and Marilyn Kelly-Buccellati participated actively in the planning and evaluation of the excavations during the course of the season.

explain the two unexpected findings made during the course of excavation. Two working hypotheses which seem to us to best account for these two phenomena (i.e., for the complete Halaf/Ubaïd structures overlaid by ash and for the peculiarity of the third-millennium structures) have been advanced to explain the materials excavated, and they seem to justify our intent to continue with a more substantial excavation program, aimed at uncovering the Halaf/Ubaïd settlement in its entirety, below the third-millennium structures. I will now outline these two hypotheses.

### 1.3 The hypothesis of a natural disaster in the Halaf/Ubaïd period

As described in detail below by Daniela Buia, in the two areas where we have reached the widest exposure, there are two structures from the Halaf/Ubaïd period which are preserved almost completely — one being a domed pottery kiln, apparently abandoned in mid-firing and filled with vessels placed in their initial position; and the other, a building with two or more rooms, of which the roof seems to have caved in. In both instances, there was a thick grey deposit on top of the structures, stratigraphically distinct from the structures themselves, and very hard, almost cement-like, in consistency. From the stratigraphic situation, we cannot recognize any local origin for this deposit: in particular, we see no reason to assume that it is connected either with destruction or with dumping. Accordingly, we have tentatively been considering the possibility that it may have been brought about as the result of some natural disaster. Given the proximity of the Kaukab, an extinct volcano situated some 12 km north of Ziyada, one hypothesis would be to consider some extensive volcanic activity and to interpret the grey deposit as some sort of volcanic ash. This need not have been airborne from a direct volcanic eruption, but could be the result of flowage carried downstream by the Khabur. But clearly a definitive conclusion can only be reached through direct inspection of both the stratigraphic setting and the grey deposit at the site itself. This we hope to accomplish by having a skilled natural scientist visit the site, which will be a priority in the coming season.<sup>7</sup>

<sup>7</sup> For preliminary advice on this issue, and for suggestions on how to proceed further with our plans, I am most grateful to C. Dan Miller, a geologist with the Cascades Volcano Observatory in Vancouver, Washington, who has most recently published some very significant work, which he was able to conduct in the field at a Mesoamerican site demonstrably destroyed by a volcano (see Miller 1989).

Whatever the final geological interpretation may be, the following archaeological considerations remain significant.

- (1) The grey deposit does not appear to be a localized phenomenon, but to spread over several parts of the site.
- (2) In Areas A and J the grey deposit seems to overlay structures which are preserved in a fairly complete state; in the case of the kiln of Area A, there is an indication that the structure was in use at the time it was covered by the grey deposit.
- (3) The evidence also indicates that a period of abandonment followed after the grey deposit had settled.

The import of these considerations is that it seems likely that much of the Halaf/Ubaïd occupation may be well preserved throughout the site under the cover of the grey deposit, whatever its origin may have been; this is obviously an important argument for a program of continued excavations at the site.

Besides the stratigraphic findings at Ziyada, which argue for a non-cultural origin of the Ziyada deposit, the following must be noted. First, geologic studies of the Khabur plains indicate that the Kaukab was last active in late Neolithic times, i.e., within the general time frame of the grey deposit.<sup>8</sup> As suggested by Anthony Mathys, the presence of volcanic materials in the soil could be responsible for the great fertility of these plains. Second, the published section of at least another site in the Khabur plains, Chagar Bazar, reports the presence of a thick layer of clean ash between Halaf and third-millennium deposits.<sup>9</sup> This would imply a regional scope for the phenomenon observed at Ziyada, and we might see here an external reason for what appears to be a break in the cultural sequence of the Khabur plains. The appearance of a strong Sumerian influence in the Protoliterate period links this region more closely to the south during that period than was the case in the periods immediately preceding or following it. This is clear even just from the ceramic tradition, if one considers how uncharacteristically foreign the Protoliterate assemblages are in comparison with the Halaf/Ubaïd assemblages on the one hand, and the Ninevite V/Metallic Ware assemblages on the other. This might be explained if the Sumerians arriving towards the end of the fourth millennium found in the region a relative vacuum, in terms not only of

<sup>8</sup> Ponikarov 1967:170f; I owe this reference to the courtesy of Anthony Mathys.

<sup>9</sup> Mallowan 1936:8-16; I owe this reference to Marilyn Kelly-Buccellati.

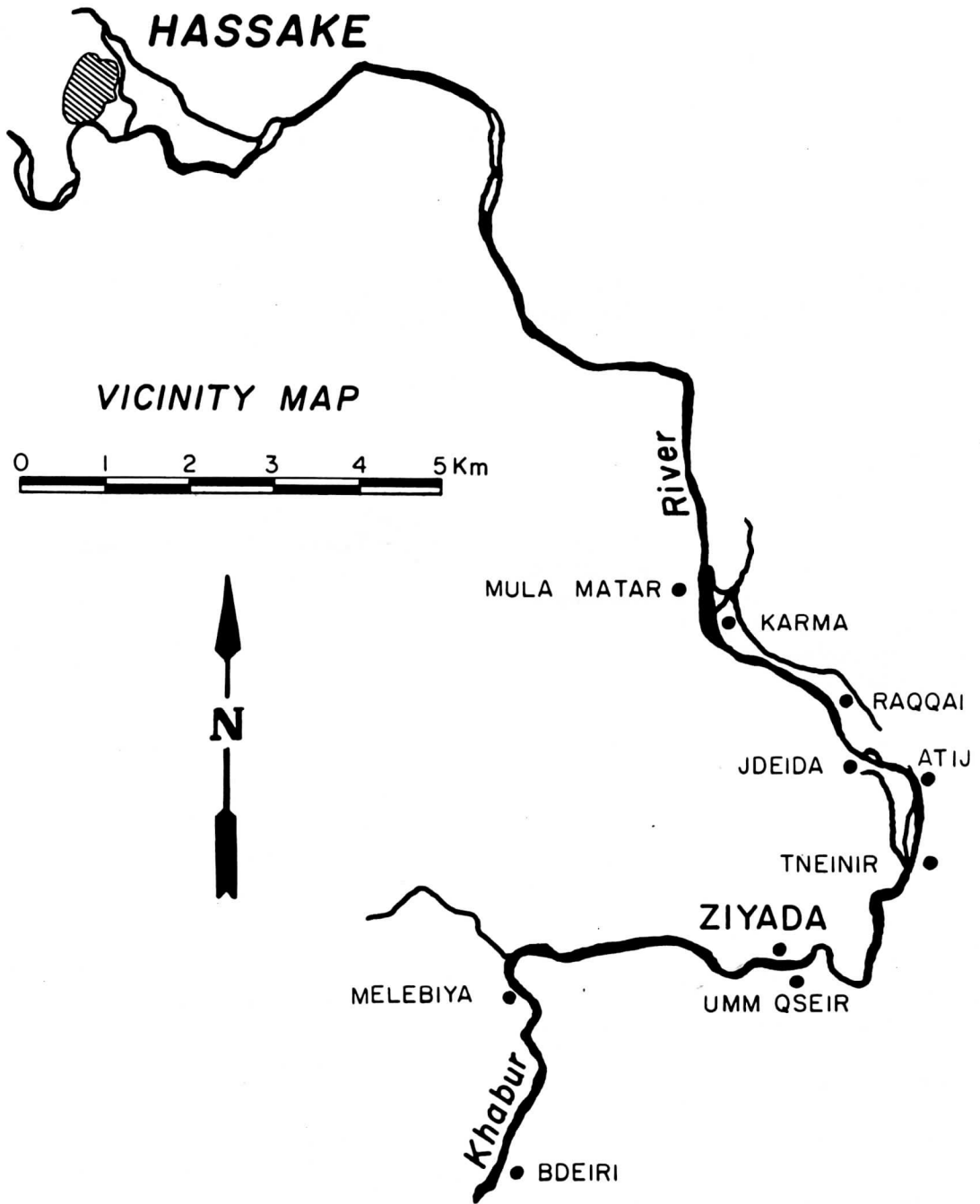


Figure 1: Vicinity Map

cultural resources but even of human presence. The remarkable Sumerian character of large centers like Brak, or the peculiar innovation of specialized function centers like Qraya at the confluence of the Khabur, suggest that the Sumerians could exert a major cultural impact without any apparent need for a correspondingly major military deployment.<sup>10</sup> While this suggestion is speculative and obviously must remain tentative until more conclusive results are obtained, it is useful as a working hypothesis aimed at placing our work at Ziyada in a broader perspective.

#### 1.4 Ziyada as a specialized function site in the third millennium

Coming now to the third-millennium strata at Ziyada, the impression that is most striking from the outset is that the constructions are on the one hand larger in scale than one might be led to assume on the basis of the size of the site, and on the other hand lacking any indication of a correspondingly high degree of affluence in their remains. As described in detail below, we have essentially three deposits, clustered next to or very near each other: a single large-scale building; an area of massive dumping; and a few, modest house-like structures. The large-scale building is the most distinctive: it has relatively large walls; it is divided on the inside into several small cubicles, with a rough floor and a heavy brick subfloor; the outside wall surfaces are decorated by buttresses; and there is a heavily compacted ramp that leads down towards the plain level from the edge of the outer wall.

The inescapable conclusion seems that we are dealing with a special function site for the gathering and storage of the grains cultivated in the surrounding plain. The large building would thus be a granary, built by the central government of a nearby large urban center (obviously Brak comes first to mind), and so designated, perhaps, by the decorative buttresses. The small housing complex would have been for the administrative staff and/or the guards, and the dumping area would be the result of seasonal occupation of the site, particularly at harvest time.

Such an understanding of the site occupation during the third millennium is in line with what we know about other sites in the Khabur salvage area, of which the one that comes most readily to mind is

<sup>10</sup> Southern influence in the Khabur plains during the Early Dynastic and Akkadian periods does not seem as pervasive in terms of common assemblages, and may well be more superficial in nature.

Tell ʿAtij, excavated by Fortin,<sup>11</sup> but also Tell Mula Matar<sup>12</sup> and Tell Raqqai. An immediate consequence for our plans of future work at the site emerges from such an assessment: it should be possible for us to proceed at a relatively faster pace in our excavation of the upper strata, given both their homogeneity and the presence of large volumes (the dumps and the big walls) for which a good stratigraphic definition, and hence rapid excavation, is possible. This is important if we are to proceed, as I intend to do, with a project that will aim at providing as much lateral exposure as possible of the Halaf/Ubad settlement. *Inshallah!*

## PART 2. THE FIRST TWO SEASONS

Daniela Buia

### 2.1 Goals and Procedures

Ziyada is a smallish mound (approximately 100×120 metres and 8 metres above current ground level – 11 metres above river level), and is one of only two among the more than 40 sites in the salvage area which showed promise of prehistoric-period settlements. The site is situated south of Hassake and lies directly on the west bank of the Khabur, which makes a gentle bend just south of the mound (Fig. 1). The river's current at this point is not particularly strong, and while one cannot claim with certainty that the river has not changed its course, the intact nature of the mound suggests a fairly consistent configuration. While the river may have eroded portions of the lower city to the south-east, there does not appear to be any major deterioration of the mound itself. The site is flanked on the other three sides by currently cultivated fields of wheat and cotton.

The goal for the first season was to excavate a step-trench on one of the steeper slopes of Tell Ziyada in order to ascertain the depositional and cultural sequence of the site. The steepest slopes of the tell lie on the north and east faces of the mound, but since the northern face had been badly disturbed by illicit digging we chose to dig on the eastern slope where the tell faces the Khabur River.

Using the master set of control points laid by the survey team in 1987, we laid out a step-trench (called Area A) running due east-west, from the highest point of the tell eastward to the edge of the cul-

<sup>11</sup> Fortin 1987, 1989, and 1990.

<sup>12</sup> Excavated by D. Sürenhagen; I owe this information to Stephen Reimer.

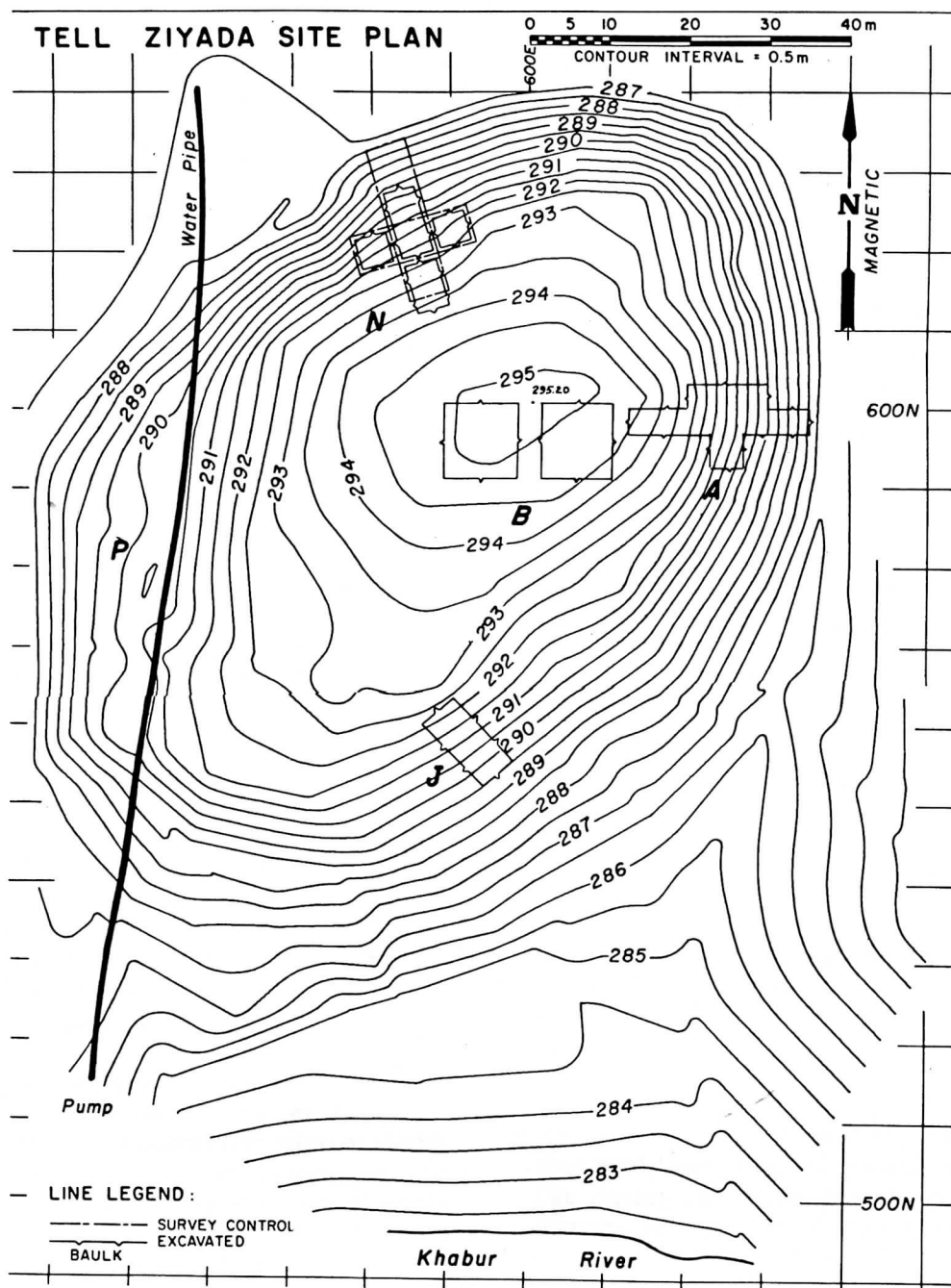


Figure 2: Site plan, showing excavation areas during first three seasons

tivated fields which surround the site (Figs. 2 and 3). The total length of the sounding was 29 metres and the height of the sounding from the fields below 8.8 metres. This height is a little less than the height of the site from the river's edge, which is 11.2 metres. A second set of control points were laid running the length of the sounding, and these were set in concrete. Six loci were laid, numbered from A through F. We selected a unit size of  $3 \times 5$  metres, so as to allow for expansion in subsequent seasons to the more usual  $5 \times 5$  metre excavation unit which could be accomplished without changing the concrete control points. In order to excavate the sounding and reach the bottom of the tell in the time available, it was decided to dig each unit to a depth of 2 metres.

During the first season we opened six units, each measuring  $3 \times 5 \times 2$  metres (30 cu. metres each = 180 cu. metres of earth removed). We counted approximately 9,000 ceramic sherds, of which 8–8.2% were diagnostic (rims, bases, and decorated body sherds).

While we did not reach virgin soil during the first season, we revealed sufficient evidence to propose at least three major cultural horizons and one major occupational interruption: Late Uruk through Protoliterate or Early Dynastic in loci A and B, a period of major disruption and abandonment of the site; Transitional Late Halaf-Ubaid 1–2 in loci C and D; and an earlier period (either Middle or Early Halaf) at the bottom of the step-trench in locus E.

During the second season, in 1989, we exposed an additional 270 m<sup>2</sup> of the site. We opened two new  $10 \times 10$  metre units at the top of the mound (loci G and H in Area B). Locus H was placed at the highest elevation on the western edge of the tell in order to provide information on the higher cultural strata. The four excavation units of locus G were situated on the upper north-eastern slope of the tell between locus H and the step-trench located on the eastern slope. The purpose of excavating in these two areas was to define the extension and dimension of the Late Protoliterate period architecture found during the first season in the upper levels of Area A. In these areas we reached an overall depth of 3 metres from the surface of the mound, removing 600 cu. metres of earth.

Four  $3 \times 5$  metre units (loci C5 and C6 in Area A, plus Area J) were opened for an additional exposure of 70 m<sup>2</sup> to meet the second primary aim of the second season, the investigation of the interface between the Transitional Halaf-Ubaid strata and the Protoliterate-ED levels above. Units C5 and C6 were opened as extensions immediately to the south of the pottery kiln structures found the previous year, while Area J was located on the south-eastern slope of the

mound. The excavations in these new units reached an overall depth of 1.5 metres.

## 2.2 Stratigraphy<sup>13</sup>

The results of the second season confirmed a continuous occupation of the site from the late fourth to early third millenniums. There were domestic, agricultural, and small craft installations during the Late Gawra period (corresponding to Late Uruk [Protoliterate b]) in areas A and B, with domestic and agricultural features continuing through Jemdet Nasr (Protoliterate c-d in the south) in the upper units G and H. In general, the Protoliterate period occupations uncovered indicated a strictly domestic and agricultural settlement during the entire period. Although there were several apparent 'double' walls in locus G, they would seem to indicate two habitations placed adjacently, rather than individual walls of larger structures. Rooms within the entire Protoliterate period are extremely small, ranging from 1.5 metres on one side to approximately  $2 \times 3$  metres. No large courtyards were excavated. Individual brick sizes ranged from  $23\text{--}24 \times 28 \times 8\text{--}10$  cm. The architectural and cultural features resulting from the second season also confirmed the suggestion of the finds of the first season that the Late Uruk occupation was larger and probably more complex in social composition than the later occupation.<sup>14</sup>

The Protoliterate occupation rests on top of an abandonment stratum, below which we found extensive evidence of the Transitional Halaf-Ubaid period. Locus C exposed additional evidence associated with a potter's workshop adjacent to the pottery kiln; Area J not only exposed a single-level structure with a terraced area facing south-east on the edge of the tell, but also confirmed the presence of the major ash deposit, which marks the abandonment of the site, at the south end of the mound.

Seven stratigraphic phases were identified, which appeared consistent in the upper levels of the mound (in both loci G and H) and which amplified the chronological sequence and the stratigraphic phases found during Zy1 in the step-trench (Area A). They are discussed here from the highest to lowest levels; the phase labels are preceded by the prefix A which refers to our understanding of the phase sequence as

<sup>13</sup> Anthony Mathys was responsible for the excavation of Area J, and Sharryn Crane assisted in the excavation of Area A. Their contribution to the description of the stratigraphy of their respective areas is gratefully acknowledged.

<sup>14</sup> This statement has been re-evaluated in light of the results of Zy3. The Abbreviations Zy1, Zy2, and Zy3 refer to the three seasons of excavation at Ziyada.

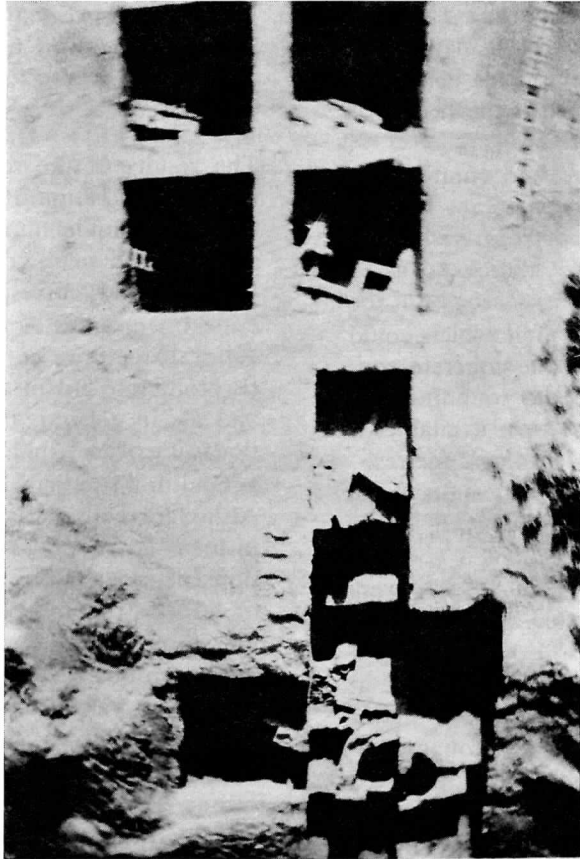


Figure 3: Direct overhead of Areas A and B



Figure 4: Protoliterate-period structures in Area A, Locus G4 (f92-94, 150)



established after the second season for Areas A, B, and J.

### Phase A1 (Modern)

The first cultural level is associated with modern Islamic burials in both loci G and H. All the infant and child inhumations were flexed, while the adults were supine. All were oriented with skulls facing towards the south. One burial, seen in the west section of H1, appears to be covered with red mud bricks. This burial, as well as a second in the same west section, appear to cut harder reddish- and greenish-brown soils. The consistency of this soil appears comparable to that near a feature considered to be a cistern or silo. The greenish color may infer open exposure to water accumulation, therefore suggesting that this upper stratum is associated with late settlement Phase A2a.

### Phase A2a (Late settlement and collapse; possible ED I)

This phase is the general collapse of Phase A2, and is represented in locus G mainly by features of wall-brick collapse next to the Phase A2 walls.

### Phase A2 (possible ED I)

In locus G, the evidence for this phase was based on two brick pavements found in units G1 and G2. In G1, the floor associated with wall f73 was made level with fill and a heavy layer of mud mortar. Large paving bricks were placed on top of wall f73 and extended both west and east. In G2, the area inside a room bounded by walls f110 and f10 was also neatly paved. However, this flooring respected earlier-phase standing walls. In unit G4, a floor (f57) was found associated with a wall (f54) at 107 cm from the surface of the tell. This high wall (f54) apparently overlies the earlier Phase A3 structures.

In locus H this phase was represented primarily by a rectangular cistern or silo and an associated bench. Located in unit H4, this structure cut into the strata associated with an earlier-phase large midden. The cistern/silo was constructed of packed clay and brick fragments lined with a white lime plaster or calcium deposit on its inner face. A 6 mm coating of this white plaster covers the bottom of the cistern/silo. There was no evidence in the internal accumulations to suggest water deposits; on the contrary, the enclosed accumulations were relatively clean and soft. The plaster's function was most likely for controlling water seepage, cleanliness, and prevention of insect contamination, indicating that the substances to be placed in the feature were more likely to be dry rather than liquid foodstuffs. Below this plastered

bottom was a bricky foundation; as it is still in situ the thickness is not yet known. The associated bench abuts the upper south side of the outer cistern/silo wall. It consists of hard, compact light-brown clay soil with a width of one metre and a depth of 60 cm. A small trough is also associated with the bench. Dimensions for the extant height of the cistern/silo are 2 metres with a rough diameter of 1.8 metres. The upper limits of the silo wall had been cut by a modern Islamic burial. To the east and north of the silo were two very small and irregular stone fire installations.

### Phase A3 (Protoliterate d/Jemdet Nasr)

This phase is a rebuilding of Phase A4 and includes reuse of standing architectural elements. The ceramic evidence falls within the traditional repertory of Protoliterate wares and forms.

In unit G4, a four-walled structure continuous from Phase A4 was altered on the north and east sides and a new mud flooring laid. A possible door in the south-west corner of the structure appears to have been opened to the east. A white floor (f100) was found associated with this structure at an elevation of 2.2 metres from the surface. Beyond the northern wall (f54) a second parallel wall was built with a small packing fill laid between the two walls. This second wall extends beyond the perimeter of the excavation unit both to the north-west and to the south-east. To the south of another wall of this structure (f58) a similar packing fill and second parallel wall were found, which connect to a third wall (f8) to form an apparent enclosure between units G4 and G2. The entry to this area is presumably in the baulks. The area within these boundaries was filled with a soft dark ash deposit on top of brick rubble. Whether this brick rubble represents wall-fall or purposeful packing in preparation for the rebuilding during Phase A3 remains unclear.

In unit G2, a second structure bounded by walls f10 and f110 was excavated. The eastern wall of this structure was not found, presumably because it had been eroded due to the fact that it was very close to the surface on the general downward slope of the tell. However, the interior of this room was neatly paved with mud brick flooring which also extended towards the south (f14).

Very little can be seen of a possible third enclosed area in the center of the excavation where the baulks cross. A corner f106 in the north-west quadrant of G2 seems to align with two walls, f8 and f29, and continues into G3 where it abuts a mud or brick bin in the north-west corner formed by walls f48 and f29.

Two additional possible structures were found in unit G3, one to the north bounded by walls f84, f112, and f48; the second to the south bounded by walls f47, f46, and f113. A very thin, white floor was found inside the northern room at 160 cm from the surface of the tell. A mud bin sits in the south-east corner of the northern room. At the north baulk of unit G1, there was heavy brick crumble that may have been the collapsed southern wall of the southern room.

The corner of a double wall (f73, f60) can be seen in the south-east corner of unit G1. This wall continued into the south and east baulks of the unit. It also appeared to continue eastward into unit G2 linking with double wall f105, forming a corner and abutting a cross-wall running to the south-west.

The most common features found in the three units of locus H during Phase A3 were a series of large ash accumulations. No architectural features were found in any unit, with the exception of eroded and badly-broken wall fragments, a small hearth, and the cistern/silo mentioned earlier which may represent the final-phase settlement for Tell Ziyada. However, within the ash accumulations, the presence of large quantities of worked obsidian and chert points, blades, and cores at the same level as the features in locus G may indicate a possible association with the Late Protoliterate phase occupation.

Because earlier-phase walls are exposed in the four units of locus G, indications are that the ash layers in locus H are both earlier than and contemporary with these walls. Thus there are two internal stages to the accumulation within the ash middens, probably associated with the continuous occupation through phases 3 and 4. The possible mud-brick walls in locus H rest above the ash layers. They also appear higher than the mud-brick walls in locus G. The ash layers that begin below the eroded bricks continue to a depth of c. 2 metres in units H2 and H4. At that level, a combination of hard, red and green surfaces marks the end of the ash accumulation. These same surface features appear at about the same levels as some of the wall foundations in the G units. With several possible construction phases associated with these walls, the metre thickness of the ash accumulations may attest to the duration of occupation. Without any architecture, and heavy concentrations of animal bones, sherds, and lithics, it is possible to assume that these ash features represent large refuse middens. Initially, the ash layers above the red and green surfaces constitute striations of ash and red crumble material. The depositional process of these layers probably included both natural levelling and cultural accumu-

lation, with some variability in midden thickness.

#### **Phase A4 (Protoliterate b-c)**

The architecture and ceramic evidence belong to the Early Protoliterate period, but the constructions at Ziyada during this phase appear relatively minor. The walls are not substantial, being at most one brick wide and sitting directly on the organic fill layer without notable foundations. The bottom elevations of these earlier walls cluster between 1.8–2 metres below the surface of the mound.

During the first season the upper levels of the step-trench in Area A yielded, at only 25–30 cm under the surface, clear evidence of mud-brick wall-falls. Below and adjacent to the brick-falls were remnants of mud-brick walls and a well-laid, unbaked mud-brick pavement. At the east edge of the unit, the pavement abutted a well-formed mud-lined oval pit. The ceramics from this unit were unpainted and undecorated. The only notable forms were plain-rimmed small cups and round body flared-rim jars. Obsidian and chert blades, cores, and chips were found in the floor accumulations and resting on the pavement. Bones were of large animals only; no human remains were excavated.

The architecture belonging to Phase A4 in locus G4 includes a three-room structure: one room formed by four walls (f96, f54, f93, and f29), with two smaller rooms with mud floors (f98 and f72) to the north (Fig. 4).

A portion of a wall in unit G1 extends into the unit from the south baulk. This wall consists of two parallel rows of bricks joined by perpendicular bricks, approximately 20 cm apart, which form three hollow pockets each 20 cm wide. The function of the pockets is not clearly understood, but one could suggest small exterior bins. A fragmentary greenish-white floor to the north and possible threshold to the east were associated with this wall.

Locus G was largely lacking in major objects but lithics, mostly of obsidian, flint, and chert, were found in abundance. River mollusk shells were common. Other objects include bone tools, basalt mortars, grinders, and door sockets. Only one small fragment of bronze was found out of context and at present can give no substantial evidence in terms of chronology.

#### **Phase A5 (Late Uruk – Protoliterate a)**

All the walls in Locus G which belong to the Protoliterate b-c period were built directly on at least a metre-thick deposit of dark-layered accumulation and fill. This phase of occupation consists of many layers of orange lenses alternating with layers of grey,

ashy accumulation. No architectural remains were found within this phase in locus G. The lack of ceramic sherds, bones, and lithics suggests a sterile accumulation similar to that found in unit H.

However, Area B during the first season had revealed at least three living floors of compacted earth belonging to this phase of occupation. All three of these floors are under and earlier than the mud-brick pavement in Area A.

The topmost of the three floors, at the north-west edge of the unit, was associated with localized burning, as fragments of heavily-burnt mud brick and ruptured stones were found. It is likely that this topmost floor is related to a mud (*pisé*) sloping wall visible in the north baulk section to the east of the floor.

The second (middle) floor is associated with a large, coarse-ware jar smash, in situ. This middle floor yielded several well-made obsidian and chert blades, as well as five spinning whorls of baked clay. Fragments of flattened basalt indicated basaltic grinders or pestles, but these were in a very poor state of conservation. A roughly-formed basalt door socket was found at this level, but unfortunately, whatever walls it was associated with had been eroded. However, it is probable that the mud wall mentioned in connection with the top floor and visible in the north baulk section is also linked with the second floor (since the bottom elevation of the wall was within 20 cm of the middle floor and door socket), indicating at least one likely rebuilding phase during this period.

The third and bottom floor also yielded a door socket, close to the north baulk, also with no evidence of standing walls. This second door socket was made of a denser metamorphic stone and was of considerably better manufacture in shape and finish. It clearly belonged to the bottom floor deposition as it was found more than 70 cm below the level of the middle floor. This bottom floor was quite thick; in fact, it consisted of a series of 10–12 alternating ash and clean soil deposits, thus indicating a continuous human living occupation. It was this series of alternating ash and clean soil deposits that linked Area B with locus G at this period.

Obsidian, chert, and possibly agate or flint blades, cores, and chips were found in profusion, especially in association with the lowest floor, similar to the quantities of lithics found in locus H at the lower levels of the middens. A broken, stone axe head was found in connection with the middle floor. Numerous bones of large animals were found, including several partial and complete animal horns. One partial animal head, which seems to be of the gazelle family, was found with the middle floor.

Several boar jawbones and teeth were also found.

During the Late Uruk period, the initial phases of occupation after a long period of abandonment were somewhat simple settlements. The only extant walls have been uncovered in the limited exposure of Area B, but this may be because subsequent building phases have eliminated traces of these early walls. However, it is clear that after the rehabilitation of the site, the occupational installations continuously increased in complexity and extension and these were clearly indicated by the series of floor accumulations.

By the end of the Uruk period, we found evidence that at least part of the settlement was used for the light manufacturing or working of textiles. In area B, we found an installation of three large, Uruk period coarse-ware storage jars which were vertically emplaced, as well as large numbers of smaller vessel fragments, numerous spindle whorls, deposits of red ocher, clay and stone tools, and a perforated baked-clay disk with a linear pattern that could be interpreted as a textile pattern. It is interesting to note that this light manufacturing installation is located in the same portion of the mound as the pottery kiln, although of a much later date.

#### **Phase A6 (abandonment-occupation-abandonment)**

In locus H, below the red and green hard surfaces, the stratigraphy appears to become a uniform stratum that lies under all the walls and middens associated with the upper strata. Reached at a depth of slightly over 2 metres, this dark grey layer appears in all the units in G and H where excavations have reached this depth. In unit H2, where excavations during Zy2 stopped at 3 metres, the dark grey ash continued to appear. Other units with similar depths also showed a horizontal continuation of this deposit. Another characteristic associated with this stratum is the absence of architecture and cultural material. Few pottery sherds, bones, and lithics are found in this band of material.

Under all the floors and installations in Area B was found a substantial deposit of dark ash mixed with loamy soil. Below this dark ash was a very hard, thick layer of grey ash which appeared to seal the deposits below. This grey ash deposit was entirely consistent with that found in loci G and H.

The characteristics of the ash layers in loci G and H appear to be correlated with the ash deposits found below the structures in locus B, and above the structures in locus C, during the first season. During Zy2, the additional Transitional Halaf-Ubaid architectural elements which were uncovered were found to be beneath the same hard ash compaction. The appearance of this hard ash layer (f403, f404) in all

Figure 5: Transitional Halaf-Ubaid period kiln in Area A, Locus C2

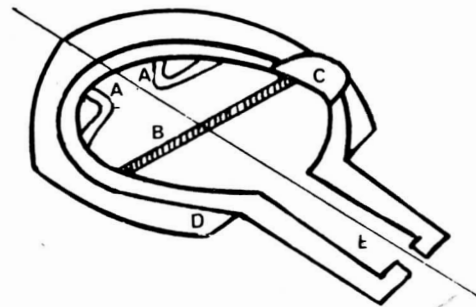
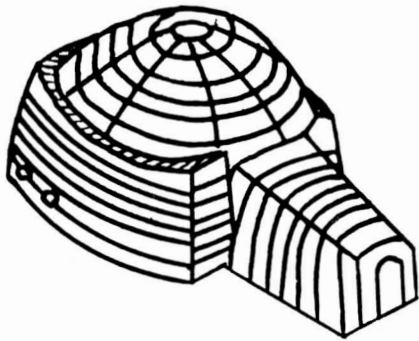
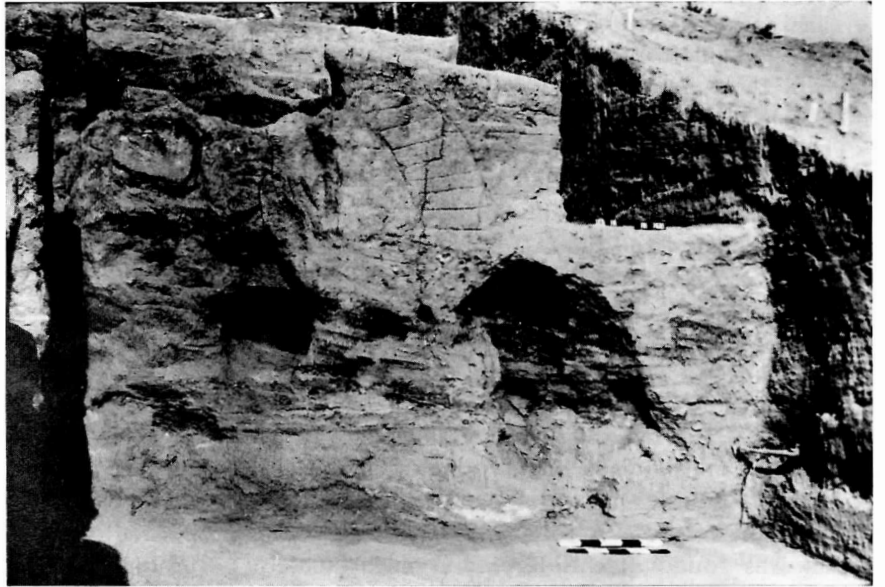
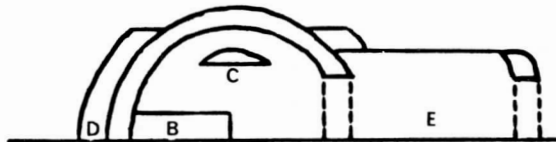


Figure 6: Possible reconstruction of Transitional Halaf-Ubaid pottery kiln in Area A

- A air flues
- B raised floor
- C shelf
- D reinforcement wall
- E firebox



the exposed units, and particularly in the southernmost unit (Area J) would seem to confirm the theory of a general abandonment of the site sometime during the mid-fifth millennium BC.

During the first season, we had thought that perhaps only loci C and D in the step-trench might have been affected by this dark ash deposit, and that the ash deposit itself was somehow associated with the functioning activities of the pottery kiln. But the lower levels of the trench appeared to be capped by the same hard grey deposit that appeared at the bottom of locus B. This material was very dense, to the point of seeming like concrete. With continued excavations, it became clear that this material did not follow the natural existing slope of the tell towards the south; in fact, it ran counter, sloping quite visibly to the north.

During Zy2, it became clear that the deposit was to be found in all of the exposed units, particularly clearly in Area J where it could not be confused with a midden deposition. It was also clear that the ash deposit marked a definite boundary between chronological periods. Features found below the hard ash deposit were Transitional Halaf-Ubaid; features above the ash layers were late Uruk.

We had made the observation in the first season that the upper portion of this hard grey deposit contained large, visible flecks of white gypsum and a sizable number of bones and sherds, as well as carbonized plant material, while the lower portions of the ash deposit were of a cleaner nature. Nevertheless, we were certain that the two portions were primarily composed of the same hard grey ash material. From the very beginning, its thickness and slope did not appear to be caused by human agents and its depositional contours appeared almost fluid in character.

Several possible explanations were explored:

1) This grey ash deposit with the loamy soil above it could in fact represent the destruction of the Halaf/Ubaid occupation levels on a massive scale by human agents and abandonment of the site for a given period of time. Certainly this would correspond to similar stratigraphic situations at the end of the Halaf period at other Upper Khabur sites. The thickness of the ash deposit on such a small site as Ziyada seems strange since the architectural features appear to be rather modest in size, layout, and composition, and do not seem to suggest the quantity of architecture necessary to create such a thick ash deposit. Also, we found no evidence of burnt brick, signs of collapse, or burnt wood, except for some fragments in Area J associated with a roof collapse.

2) The ash deposits could be associated with the removal of spent fuel materials from the functioning of the kiln. But this explanation does not account either for the thickness of the deposit or for the varying nature of the layered inclusions, and especially not for the fact that the ash layer had settled above and beyond the kiln itself. Refuse from the kiln would be contained over or under a floor or in a pit and would have been considerably dirtier than the evidence presented.

3) A third, alternative explanation was tentatively advanced in connection with the nearness (less than 30 km) of the now dormant volcano, Jebel Kaukab. The hard grey ash may indicate a natural destructive deposit of some quantity, with a period of subsequent abandonment. In this instance, we would expect to find not only some destruction from ash and earthquake within architectural structures, but also significant ash strata above the structures. We would also expect to find softer ash material within structures and denser ash material on the exterior of structures. Indeed, this proved to be the case in areas C, D, and J. The physical and depositional characteristics of hot ash act, in fact, much like a partial liquid, and with sufficient weathering and water deposits create a very hard, dense layer. The penetrometer reading of the ash deposit read  $>5$  kg/cm<sup>2</sup>.

During Zy2, additional features and objects were found within the grey ash layers which tend to suggest a repeated series of hot ash deposits, rather than a single massive eruption. Exposed in the northern bank of locus C was found a series of layers of composite ash, clean and extremely hard with very few flecks of charcoal attributed to natural burning. This appeared consistent with the finds of the previous year. But a thin wall and at least two thin but distinguishable floor layers, apparently embedded within the series of hard ash layers, was uncovered: a lower, thin-packed floor accumulation and an upper floor accumulation associated with a small, stone hearth installation. This upper floor (f462) was harder than one would expect and lies closer to the upper surface of the upper ash deposit. Penetrometer readings of other compacted floors read between 2-2.5, while floor f462 read  $>5$ , a reading similar to the ash fill itself. One spindle whorl found associated with the upper floor was unlike all the other spindle whorls found in the Uruk and Protoliterate levels above. While similar in form and composition, it proved to be much harder and appeared incompletely baked by immersion in still hot ash material. These additional features clearly suggest a temporary, if small, reoccupation of the site.

### Phase A7 (Transitional Halaf-Ubaid)

*Terraced structure in Area J* – The architecture in Area J began to appear at 30 cm below the surface of the tell and was capped by the now consistent layer of hard (>5) dark ash. This would indicate that either the later Uruk to Protoliterate installations did not extend to the south end of the tell, or the structures and features associated with these later periods had been completely eroded.

Area J revealed the remnants and foundations of a structure composed of at least two rooms (one exposed, one in the baulk) with well-aligned brick floors resting on top of a series of three well-made levelled terraces capped with brick. These terraces face south-east, as did the probable entryway of this structure. Within this unit, two major plaster-faced rooms were separated by a 1.6-metre-thick wall of two courses of brick on either side and an intervening packing fill. This wall abutted a second wall running in a north-south direction. This north-south wall consisted of four courses of brick, with the two outer courses constructed of 12-cm-wide bricks and the two inner courses by 24-cm-wide bricks. The burnt and collapsed roof of this structure was composed of round wooden beams and at least three of these beams were clearly visible in the south-west corner of the south baulk.

Externally, a levelling fill abutted the four-course wall; in turn, this fill was contained by a possible retaining wall one brick wide. In the southern corner was a semi-circular bin attached to the outer wall. To the east of this structure three distinct terraces of brick were exposed. Beneath the lowest of the three terraces were the traces of a possible fire installation with ash and fill accumulations adjacent.

*Pottery kiln installation in loci C-D* (Figs. 5 and 6) – During the first season, immediately under the hardened grey ash layer, we found a circular mud-brick structure with a corbelled dome/vault. Bricks and mortar lines were clearly visible in an arched formation. With further excavation, the structure extended towards the north with a reinforcing buttress wall and a rectangular but vaulted entry structure. The circular structure was surrounded on the south side by a double wall and the space between the two walls was filled with a homogeneous crumbly fill. The interior wall of the circular structure showed evidence of high heat, with the mud brick highly-baked, red, and over-fired. Since we appeared to have a possible pottery kiln of some size, we opened two additional 3×5 metre units to the north, following the direction and orientation of the standing walls.

After removing part of the dome, we found the extent of the interior diameter of the circular struc-

ture (2.8 metres) and the extent of the wall running north-south connected to it. At the extreme north end of the entryway wall, we found an oval pit/opening filled with heavily-burnt ash which was also visible in the north baulk section. We also found the north-south wall in the north baulk section, and noted that the wall contained and surrounded the pit, so it was clear that the pit was contained as a functional part of the structure and not a later intrusion.

The circular domed area itself was filled to the top with dark soft ash, smashed whole vessels, and, strangely, large-animal long bones. At first, these bones made us think that we had found a possible burial, but when we began to find over-fired and vitrified pottery wasters, fire-dog fragments, a deposit of red ochre pigment, and the air-flues of the structure, we decided that we clearly had a pottery kiln.

There are several points of particular interest about this kiln:

- 1) The kiln was full to the dome with vessels, which were neither empty nor slightly littered. A great majority of the vessels were over-fired and very friable, others were incompletely baked as if the kiln had been abandoned in mid-firing.
- 2) The majority of the vessels were found in an upright (if not quite totally vertical) position, smashed down by the weight of the dome which seems to have fallen in under exterior pressures. The vessels were not smashed and scattered by human agents, as in the pottery kiln structure and deposition described by Mallowan at Arpachiyah 1, but in place in the circular part of the kiln, from the floor rising to the top of the dome.
- 3) The kiln itself, while resembling the classic Halaf tholos construction, is a solid, large mud-brick structure, neither composed of simple *pisé* walls nor resting on stone foundations. The overall dimensions of the exposed kiln structure (since the face of the western part of the kiln is still unexcavated) are approximately 6×4 metres. It is more than twice as large as the Halaf-period kiln described by Mallowan at Arpachiyah<sup>15</sup> (which is *pisé*, is one metre in diameter, and has a central pillar support); Mallowan states two Ubaid-period kilns were found, but does not describe them.<sup>16</sup> Perkins mentions<sup>17</sup> that Ubaid-period kilns were found at Tepe Gawra in levels 15 and 16, one of underground construction and another which was domed with a grate covering a

<sup>15</sup> Mallowan and Rose 1935:16-17.

<sup>16</sup> Mallowan and Rose 1935:175.

<sup>17</sup> Perkins 1949:67.

fire hole in the circular portion of the kiln. At Ziyada, the thickness of the double south wall is 65 cm, while the rectangular passage walls are 35 cm. The wall surrounding the firebox and the retaining buttress wall are 65 cm. Individual brick size is 20×30×8-9 cm. The interior height of the south half of the kiln to the center of the dome is 140 cm, of the north half of the kiln 180 cm.

4) The kiln was filled to the top, not just at the bottom or in the firebox, with soft ash. This quantity of ash in a kiln of substantial size with large air-flues for heat circulation would suggest that the ash is not from the firing process itself but from some other source. The ash deposit (f71) which filled the kiln at first appeared to be composed of two diverse compositions. The difference was a result of the cave-in of the vault/dome, so that the upper layers of the fill had more brick fragments and crumbled bricks. However, sherds were not found mixed with the brick fragments, but were consistently in the extremely soft, black ash which surrounded the mass of ceramics. The kiln appears to have been abandoned suddenly during the firing process, which explains the deforming and incomplete state of burn-out of most of the vessels.

5) All of the bones were from large animals, and were mainly long bones and thick joints. No hooves, horns, or heads of animals were found, eliminating the possibility of an animal's lair after abandonment. The bones were found all though the interior of the kiln, from the top to the bottom, not clustered to any one side or level. An explanation for these bones may lie in the production/firing process itself.

6) On the north side of the circular kiln we found a passageway which connected the oval firebox with the kiln itself. This too was filled to the top with soft ash but not as densely packed with sherds. Both the east and west walls of the passageway were also made of mud brick with clear mortar lines, and neither show the same high heat baking as do the bricks which line the kiln itself. A large air-flue passed from the juncture point of the passage at the north side of the kiln to the exterior of the rectangular structure. The interior wall (the west interior wall of the passageway) appears to continue downward, being deeper than any of the other exposed walls of the kiln.

7) Inside the circular kiln, in the western portion, we found a semi-circular niche formed of baked mud brick. This niche seems to form a shelf extending westward about 80 cm.

8) The south half of the circular kiln had a floor, visible in section, banded with a deposit of hard white stone with a pebble surface, or of some stone

which had accumulated a thick granular white encrustation, possibly crystallized deposits from the firing process. The floor itself was clean, and immediately under the floor was a large air-flow vent which ran from the double south wall, making a 90° turn and escaping through the exterior of the east wall of the kiln.

9) Immediately to the east of the kiln and at the north end of the excavated area we found a burnt, red mud floor exterior to the north-south rectangular entry wall, corresponding in elevation to the mud floor inside the south half of the kiln.

10) The entire kiln structure did not seem to have any visible foundation layer, neither of brick nor of stone as one would expect for this period. Instead, it appeared to sit on a thick deposit of banded dark ash, which appeared inside the kiln and also appeared to run under the floor and flue vents! With further investigation, we found a second, dark compacted floor in the middle of this ash layer. Underlying the entire complex of kiln and ash, was a thick clean deposit of red-brown soil, which also sloped gently, culminating under the center of the kiln.

The rest of the immediate area evidenced extended ash debris from the kiln, with no additional walls; at the east edge of the unit, the deposits were mixed with the eroded surface debris of the topsoil.

The depositional evidence would seem to indicate at least four stages of construction and changes in the kiln/production structure. It seems clear that the entire kiln area had been used for some form of burning/pottery production over a fairly long period of time, perhaps starting from an open shallow pit production area growing into a smaller *pisé* kiln, the only remaining remnant of which could be the interior west wall of the entry passage. A rebuilding took place which further enlarged this craft area by building the circular portion of the mud-brick kiln and adding the exterior buttress wall and the north portion of the entryway/firebox of the kiln structure. Finally, a third rebuilding took place which raised the floor of the south half of the kiln, added the west 'niche', added the double wall surrounding the circular portion of the kiln, and extended the north-south exterior west wall of the entry passage to surround the firebox, thereby linking this last rebuilding phase with the topmost red burnt floor.

During the second season expanded excavations of the kiln area, meant to reveal the western face of the kiln, instead exposed structural features indicating a habitation and work space associated with the kiln structure. These additional features were rectangular and included low working bins, large circular basalt mortars, and two mud-lined straight-sided circular

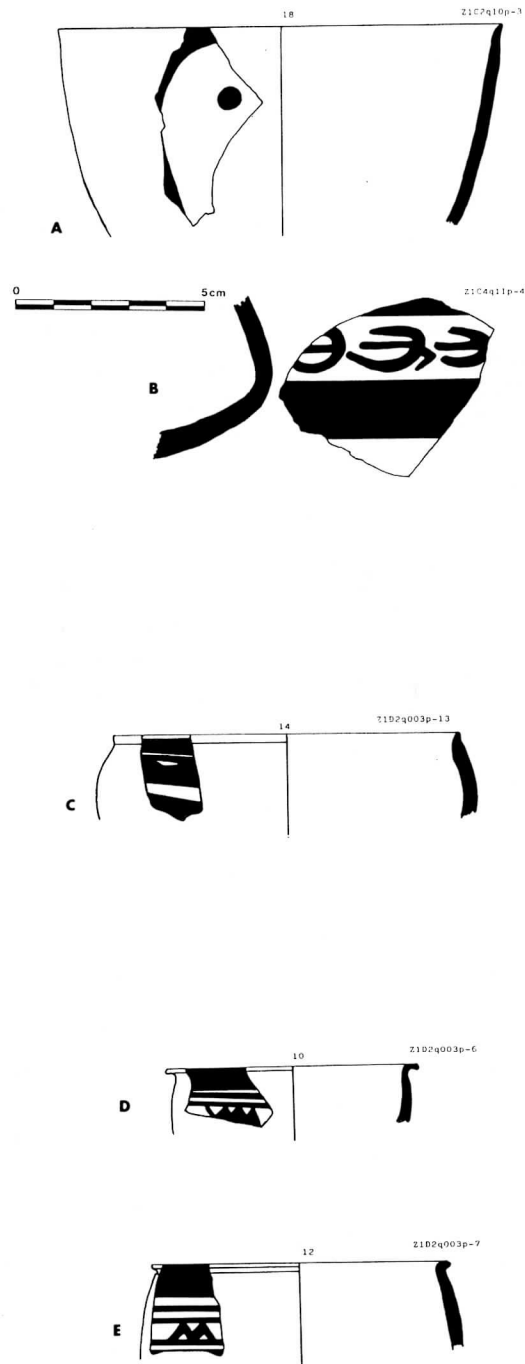


Figure 7: Ceramics from Areas A, B, and J (A-E, numbers refer to sherds within pottery lots)



pits which were physically linked to the kiln itself by low, reinforcing walls and a large area of hardened mud floor.<sup>18</sup>

To the south of the work space, three walls suggestive of a third structure (either an adjacent habitation or a continuation of the pottery installation), consisting of a partial corner and a plaster-faced wall forming an interior room, were exposed.<sup>19</sup> That these features are contemporary with the kiln was evidenced both by the ceramics, which were identical to those found within the kiln, and by the fact that both the dome collapse and overlying ash deposits cap all the features mentioned.

In the corner under the packed-mud floor, adjacent to a basalt grinder and a mud-lined pit, a medium-sized coarse-ware round-bodied pot (i68) was found which contained a child burial (f470). The body was lying on its right side in a circular position (not flexed), following the contours of the pot. The bones were in moderately good condition and the teeth were intact in the jawbone. Secondary teeth were visible, giving us the possibility of estimating the age of the skeleton at about 6–7 years of age. The legs of the child had been broken at the knees and pelvis in order to place the body at approximately half-way down in the vessel. Animal teeth were found with the child's bones, but these may be intrusive. A small, perforated shell bead (i73) was found loose in the fill below the skeleton along with two lithic blades. Also found with the body was a rim fragment of a small, round-bodied cup of fine plant and gypsum ware decorated with what appears to be a duck (i76).

### 2.3 Ceramics

The ceramic evidence for all the phases uncovered in the various units within Areas A and B are clearly within the parameters of Protoliterate period forms and wares.

There is a general absence of painted and decorated wares from all the uppers levels of the site, with none of the combed and impressed decorations and no Jemdet Nasr ware. The only unusual rim observed thus far was that of a spouted jar comparable to those of Protoliterate d. On floors and in fills of Phase A5 in loci G and H numerous flat body sherds with scored interiors were found. These fragments, according to Nissen,<sup>20</sup> are restricted to Late

Uruk 3 and do not appear in Early Uruk, only slightly in Jemdet Nasr, and not at all in Early Dynastic I.<sup>21</sup> These scored vessels are supposed to function as 'husking trays', but appear at Ziyada in several forms: shallow and medium-deep bowls, platters, and straight-sided beakers. The dominating vessels seem primarily to be medium and small plain-rimmed conical and round-bodied open bowls, in wares ranging from simple coarse plant to fine plant sand and gypsum-lime.<sup>22</sup> Also absent were incised decorations or other period diagnostics such as bevelled-rim bowls, solid-footed goblets, reserved slip simple ware, Metallic Ware, or Ninevite 5.

The majority of the ceramics from the Uruk levels are unpainted. There appears to be a higher percentage of 'collar'-necked jars and jars with everted necks with plain lip/rim treatments. Very few painted or burnished sherds appeared in these levels and those that were found came from the earliest floor accumulations immediately above the abandonment level. One plum-red painted/slipped burnished rim sherd of a small cup/bowl and several very small body sherd fragments were found which suggested Early Uruk. Three painted body sherds were found, one bichrome and two monochrome. The bichrome body sherd, painted both interior and exterior, was suggestive of a shallow, open bowl/plate. The ceramics from Area B were entirely plain coarse wares, with a preponderance of medium-sized high-necked and flared-rim jars. Only one fragment each of a small flared jar rim of burnished dark red painted ware and a small jar rim with a horizontally-perforated lug handle were found in the bottom floor accumulations.

It will be remembered that the Transitional Halaf-Ubaid structures, including the pottery kiln structure, were completely covered with a thick deposit of ash (f40/f43) which sealed the structures below. Few sherds were found in this ash deposit. The ceramics from below the hard ash deposit, including the Area J floor and room accumulations, the area C/D workshop floor accumulations, and the ceramics from the interior of the closed kiln, evidence the Halaf/Ubaid repertory (Figs. 7–10).

The majority of the ceramics found inside the kiln were painted; no impressed, incised, or appliqué decorations were found. In some instances, we found two vessels of the same material/ware of different sizes decorated with the same pattern and by the

<sup>18</sup> Rather similar to the description of the potter's shop in level TT6 at Arpachiyah; see Mallowan and Rose 1935:104–106 and Fig. 5(c).

<sup>19</sup> See Van Loon 1987 for similar finds of circular and rectangular Halaf buildings being used contemporaneously.

<sup>20</sup> Nissen 1972:100.

<sup>21</sup> *Ibid*:Fig. 31 (distribution chart).

<sup>22</sup> Pollock cites Nissen and Wright as confirming that 'Conical bowls first appear in Middle Uruk and they do not become common until Late Uruk times or even later' (Pollock 1987:129).

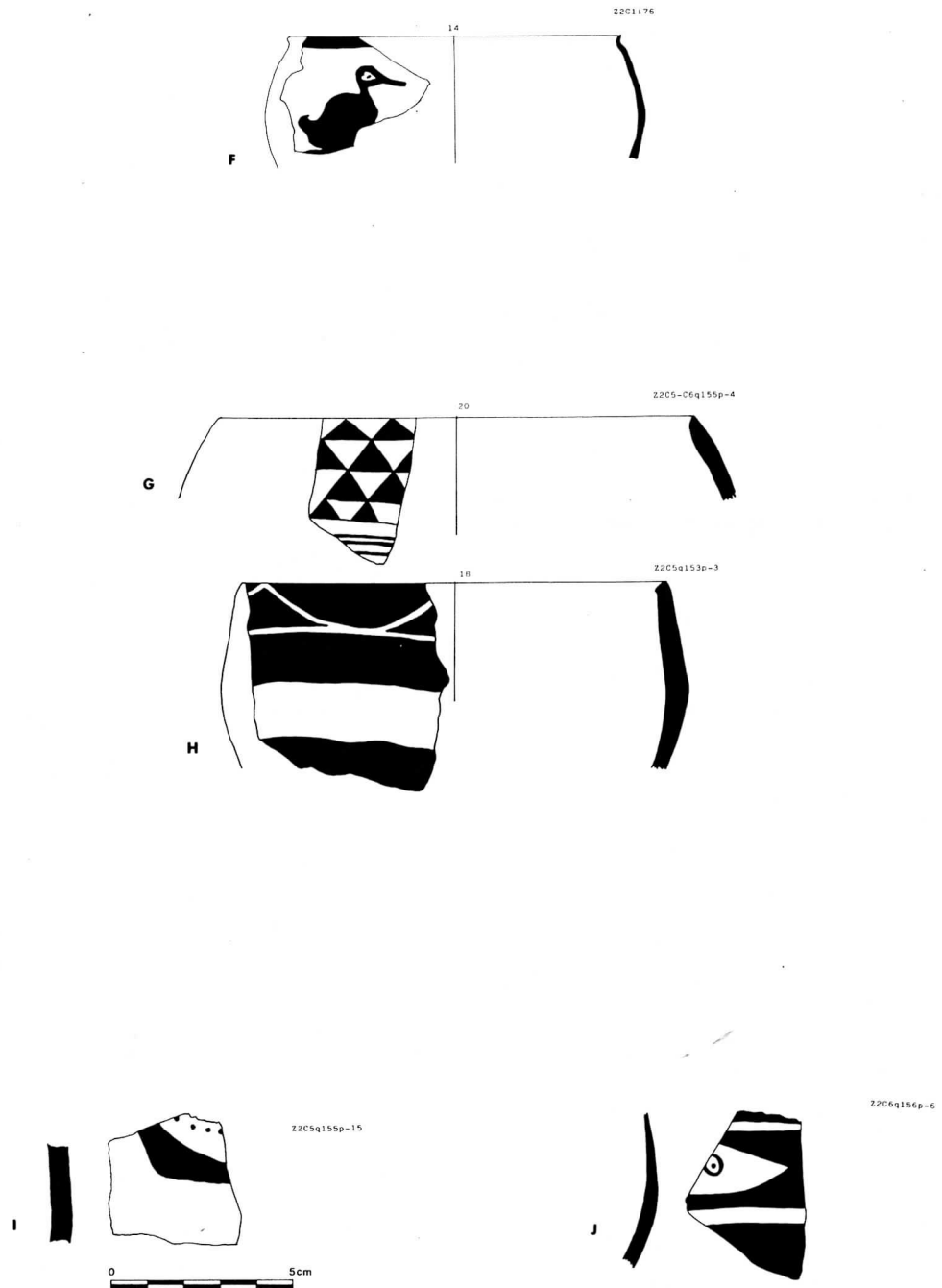


Figure 8: Ceramics from Areas A, B, and J (F-J, numbers refer to sherds within pottery lots)

same hand, as well as the same form being produced in two very diverse wares. All were handmade on a slow wheel/tournette. We found both large, relatively coarse-ware jars alongside small, fine cups and bowls, indicating that they were all being fired at the same time and not separately as one might expect. Many of the vessels showed evidence of heavy carbonization, confirming an erratic firing procedure.

From a preliminary observation of the wares and decorative patterns, it appears that we have both Early Ubaid (1-2) and Late Halaf (Eridu 14) periods represented. That they were found together inside a kiln abandoned in mid-firing may indicate that we have a cache of Transitional Halaf-Ubaid materials of prime importance. This discovery should add to the present information on pottery manufacturing locations in the Khabur region, adding Tell Ziyada to Tell Brak, Tell Halaf, and Chagar Bazar.

There appear to be two basic clay pastes employed: 1) a coarser, moderately-levigated clay mixed with sand and tempered with plant material, which fires to a light green to buff color; 2) a finer, well-levigated clay mixed for the most part with finely-crushed white mineral and occasionally with fine plant, which fires into reddish tones. Given the availability of river-washed alluvial clay deposits at only a few metres distance, it is most likely that both clay fabrics were collected in the immediate vicinity of the tell.

The white mineral, in those sherds which were more exposed to heat, becomes a soft crushable material (should fizz under cold hydrochloric acid), easily crushed by a steel dental pick and alternately called gypsum or lime, limestone, or calcite in the literature. In those sherds incompletely fired, the white mineral remains quite hard, that is with a Mohs hardness above 5.5, and cannot be crushed by a dental pick, characteristics suggestive of an orthoclase or quartz.

These two paste-temper combinations were used in a wide range of vessel forms, both painted and unpainted. However, a very preliminary observation of the types seems to indicate that the thin-walled vessel forms were more consistently made of the latter clay paste.

Decoration of the vessels is entirely in paint, again with a possible difference in technique between the two types of paste. The 'green' clay vessels for the most part are less finely executed than the 'red' clay vessels. The 'green' vessels are larger, coarser, and rapidly made and decorated; the 'red' vessels are smaller, finer, delicately planned, and painted.

The identical potter's hand is noticeable in the entire range of decorations and on both types of clay

pastes. Given the probable rebuilding phases of the kiln (see the stratigraphic summary given above), this kiln was a permanent installation, even if one supposes that the actual production of the ceramics was limited to a seasonal occupation. Certainly, the entire production of this particular firing was the result of one artisan, even if he employed additional persons as assistants. The kiln material in particular seems to suggest a notable adaptation of Late Halaf motifs on Early Ubaid forms.

For preliminary field comparisons, we relied on Wright, Delougaz, Hansen, Hijara, Oates, Perkins, and Porada. The comparative material lies precisely with Arpachiyah, Chagar Bazar, the Ubaid well at Choga Mami, Tepe Gawra, Eridu, Hassan Rummi, Haji Nasir and Haji Mohammad, and most particularly with the 1985 deep sounding CH at Tell Brak.<sup>23</sup>

The sherd profiles and decoration from Brak levels 21-22 seem identical and are assigned by Oates to Late Ubaid, although at Ziyada the context would seem slightly earlier. Tell Damishiya's Halaf ceramic material appears to be earlier than at Ziyada, although some of the decorative motifs reoccur.<sup>24</sup> Also, several of the vessels are identical to examples found by Frank Hole at Umm Qseir.<sup>25</sup>

## 2.4 Objects

In the Halaf/Ubaid levels, objects were limited to lithics, stone and bone tools, and ceramics.

In terms of luxury items, the most conspicuous object found during the first two seasons at Ziyada came from below the small reoccupation installation, embedded between the layers of the hard ash deposit. A small, solid gold boss rivet (Z2i66) was found in the lower ash levels, at the beginning of the abandonment level between the collapsed dome of the pottery kiln and the small stone hearth installation above it (Fig. 11). Its find-spot, however, was isolated and out of context with other features. The rivet measures 1.7 cm in height and consists of a small gold ball on a tubular stem, which showed evidence of hammer marks on the flattened end point. The stratigraphic context indicates a period between Transitional Halaf/Ubaid and the later Uruk levels above. If we are correct, this object would indicate one of the earliest known examples of either wax casting or solid worked gold.<sup>26</sup> It is possible that the

<sup>23</sup> Oates 1987:194 Fig. 2b.

<sup>24</sup> Note the beaked bird on Plate 19 no. 130.

<sup>25</sup> Note examples 'l' and 'm' on p. 216, 'p' on p. 214.

<sup>26</sup> The earliest example I could find is from Tomb 109 at Tepe Gawra during Jemdet Nasr, where Tobler mentions gold 'studs' (A.J. Tobler, *Excavations at Tepe Gawra II* pls. LVIII and LIX, Philadelphia: University Museum, 1950).

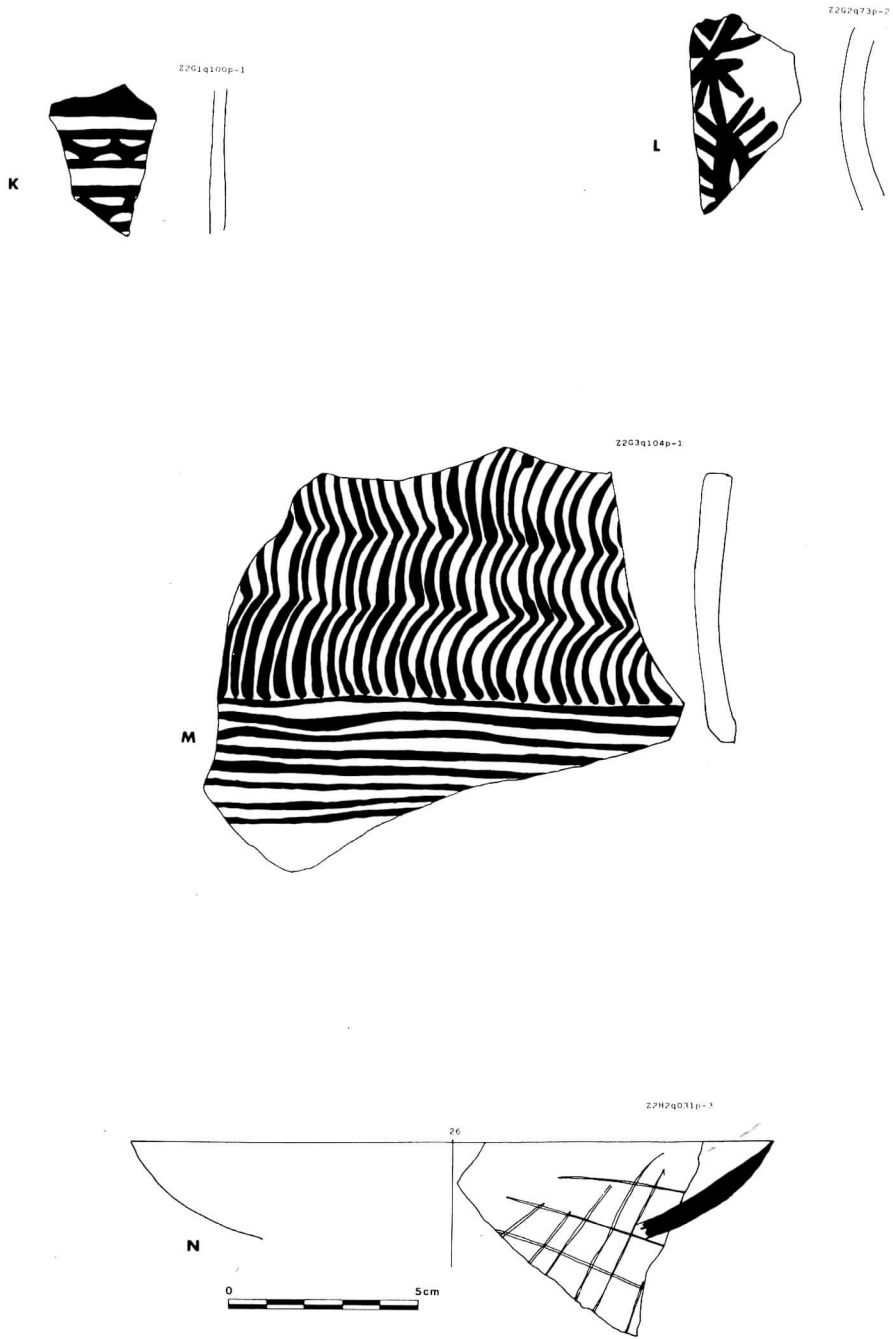


Figure 9: Ceramics from Areas A, B, and J (K-N, numbers refer to sherds within pottery lots)

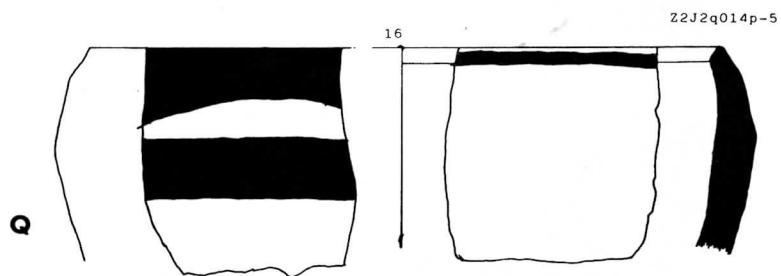
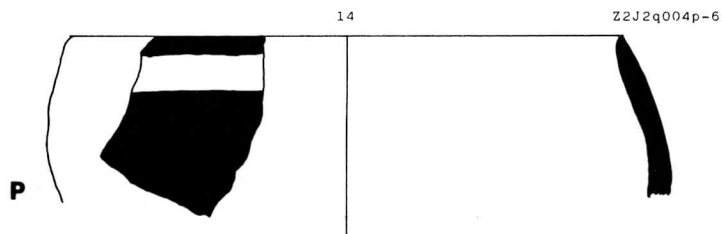
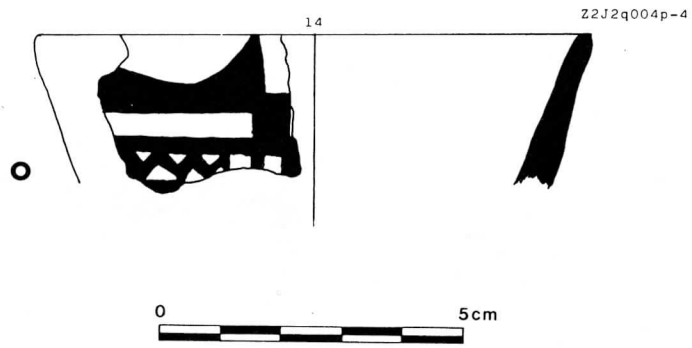


Figure 10: Ceramics from Areas A, B, and J (O-Q, numbers refer to sherds within pottery levels)

Buccellati/Buia/Reimer: Tell Ziyada

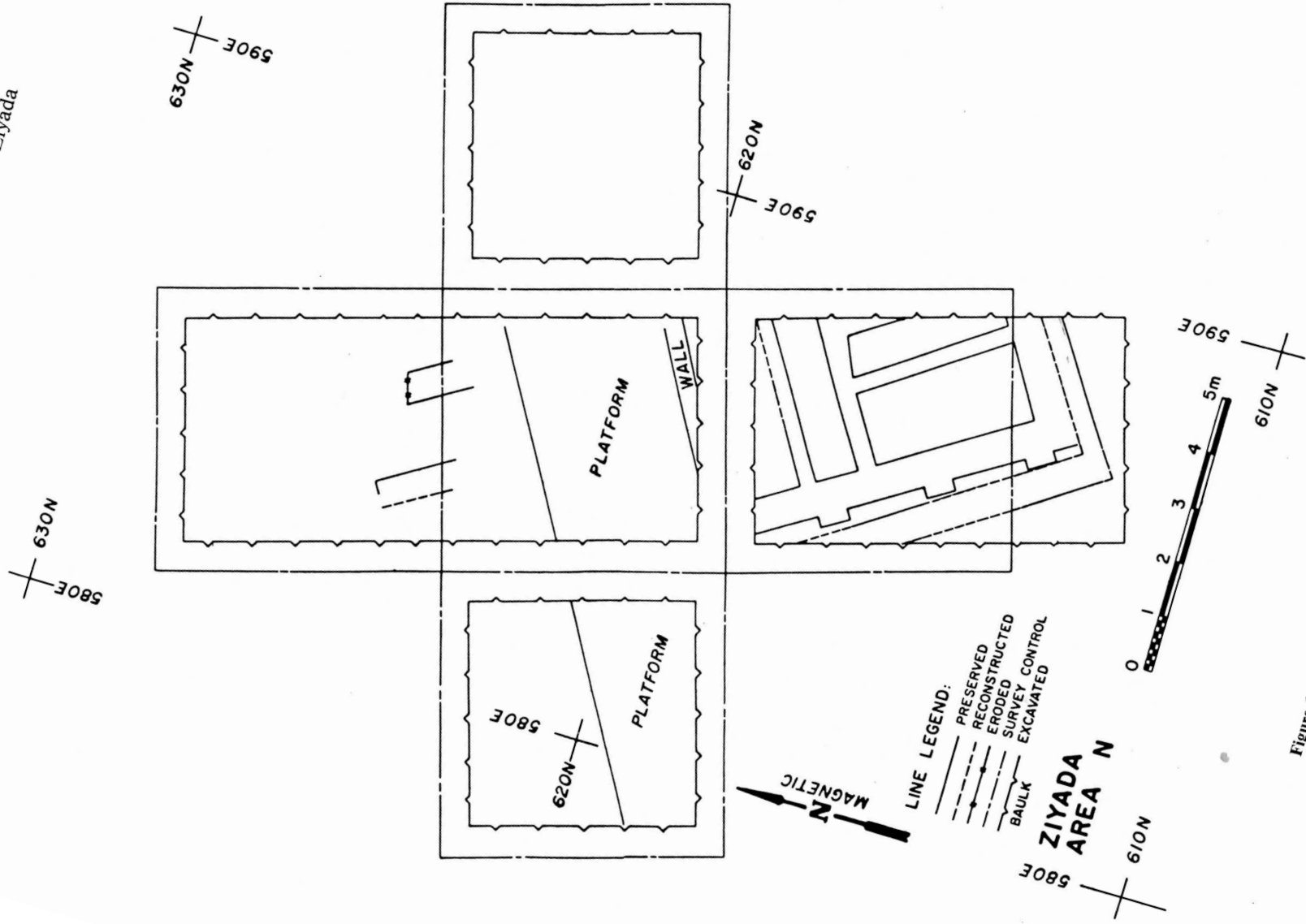


Figure 13: Area N, floor plan

## PART 3. THE THIRD SEASON

Stephen Reimer

### 3.1 Introduction

The third season of excavations at Tell Ziyada was carried out during the months of May and June of 1990, under the auspices of the International Institute of Mesopotamian Area Studies and general direction of Drs. Giorgio Buccellati and Marilyn Kelly-Buccellati, with Mr. Stephen Reimer serving as field director. We wish to thank Dr. Ali Abu Assaf and the staff of the Department of Antiquities in Syria for their efficient and generous support of our activities, as well as the local museum staff in Hassekah, especially director Jean Lazar.

Excavations during the previous two seasons have established the existence of an extensive prehistoric occupation ensued by a less expansive early third-millennium culture. Evidence for the later period has been limited to a large disposal area with a few small domestic features found near the center of the site. This set of circumstances led us to open two previously unexcavated quadrants of the tell with the prospect of ascertaining more about the early third millennium period and hopefully finding an architectural transition to the prehistoric occupation. A further objective for this season was to ascertain the extent of an homogeneous layer of hard grey material, which had previously been found capping the prehistoric levels in two other areas and was considered as possible evidence of the eruption of the nearby volcano, Kaukab.

Area N1 (Fig. 13) is the designation we used for an excavation area on the northern perimeter of the tell, extending from the upper levels of the tell to the lower field plain. The area includes eight 4×4 metre units separated by one metre baulks. It was the primary area of excavation during the 1990 season and yielded a good deal of material beneficial towards meeting the above objectives. In addition to Area N1, we opened a smaller sector on the western perimeter of the tell, designated area P1, in order to complete a representational inspection of the site. Two 4×4 metre units were exposed but produced a negligible amount of material evidence.

### 3.2 Summary of Area N1

In the deepest levels of area N1 we were able to examine a small (2×2 metre) locus in which prehistoric material was found. The pottery is most likely from the Ubaid period and the function of this unit seems to be domestic. Above this level, the third-

millennium occupation begins with a large glaciis or packing, over a metre in height, encompassing an area roughly 5×15 metres. A large public structure rests on the glaciis and incorporates a series of small chambers separated by narrow walls, all of which are contained by a larger outer wall. Associated with this single structure, we discovered an entry area paved with mud bricks and sloping upwards to the structure. The pottery from the third-millennium levels consisted mostly of crude cooking vessels and lacked the finer and more definitive diagnostic wares (Figs. 14-15). Communication with other excavators (Fortin, Sürenhagen, and Schwartz) suggests that the ceramic material corresponds to the Ninevite V period found in other nearby sites. A more detailed description of the elements found in area N1, beginning with the prehistoric, follows.

#### Phase B1.1<sup>28</sup>

The earliest occupational material encountered at Ziyada in the 1990 season was a midden level in locus k21. The horizontal exposure of this midden was limited to about one m<sup>2</sup> and the thickness of the material excavated was about 25 cm. The bottom of the midden was not reached and there are no projections as to how deep this feature and the related cultural period might extend. The midden is at roughly the same elevation as the current plain level and contains the typical discarded foodstuffs and pottery. The proportion and total amount of painted sherds was by far the greatest in this one feature than in any other. Preliminary faunal analysis suggests the presence of at least one large bovid and one juvenile equid.

#### Phase B1.2

Above the midden were the remains of two 20-cm-wide walls and related floors. The exposure area was limited to about one m<sup>2</sup> so the length of the room is unknown. Floors were relatively clean with only a few broken sherds being found. These sherds parallel the ceramic material found in the previous phase.

#### Phase B1.3

The collapse of Phase B1.2 was represented by typical wall-fall between and above the walls of Phase B1.2 and contained very little cultural

<sup>28</sup> The prefix B refers to the phase sequence established during the third season for Area N1. At this point there is no attempt at making a direct correlation of this phase sequence with that of the areas excavated during the first two seasons at Ziyada and published above.

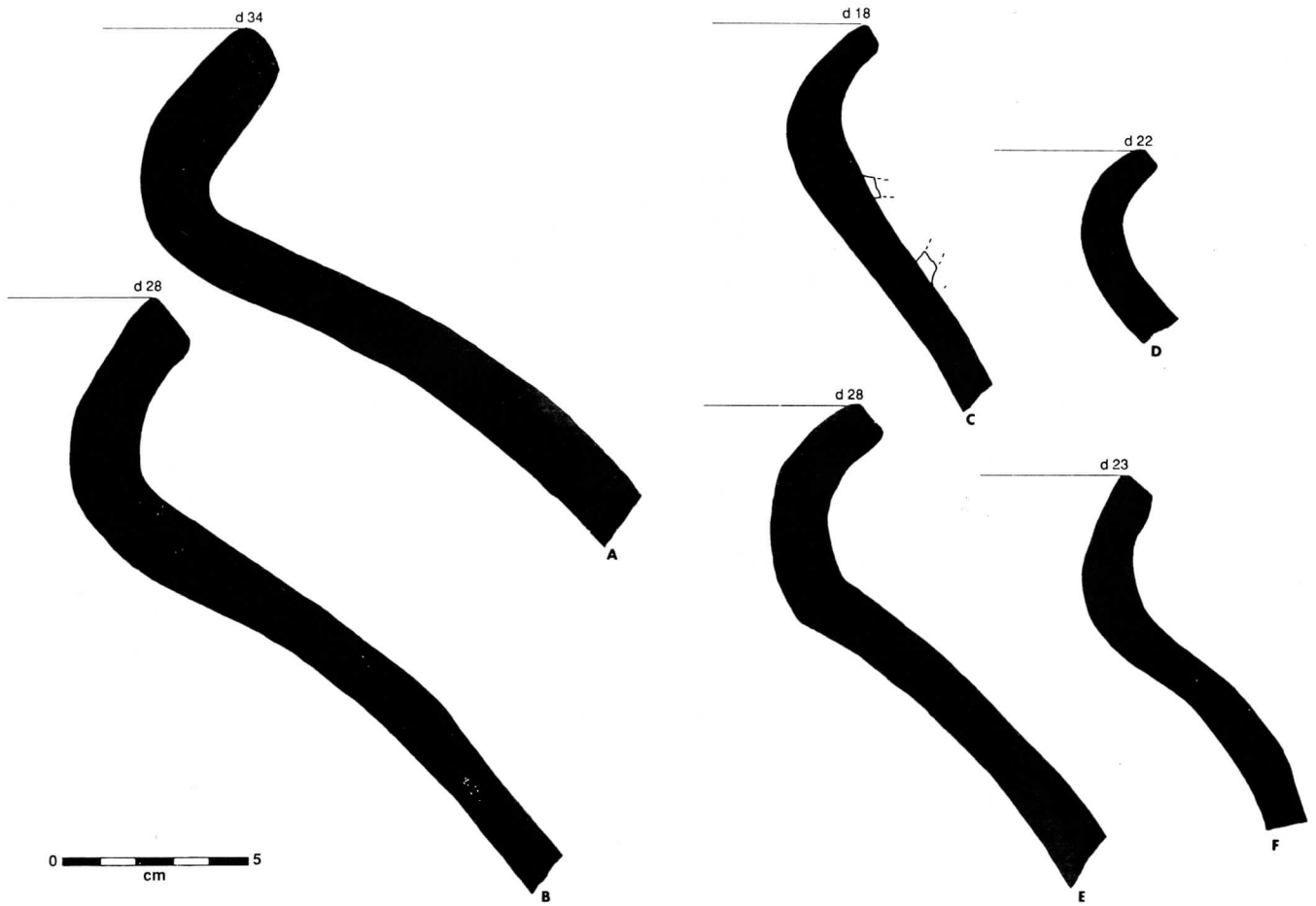


Figure 14: Ceramics from Area N (numbers refer to pottery lots)

- A. N1q11p
- B. N1q24p
- C. N1q28p
- D. N1q1p
- E. N1q18p
- F. N1q1p



material, with the exception of a very nice stone axe head. Above this abandonment phase the third-millennium glacis begins.

#### Phase B2.1

The beginning of the third-millennium occupation appears to begin with a sizable public building, which consists of a glacis, a platform, and a brick structure. The embankment or glacis is at least 125 cm thick, over 3 metres wide, and is undefined in its length but appears to follow at this point the perimeter of the tell. The glacis abuts a large brick area (possibly a platform) which is at least 2.5 metres wide and is represented in the three 5×5 metre locuses at that elevation. Its depth is uncertain but must be a minimum of one metre. The platform is constructed of individual mud bricks, without mortar and not as well laid as a wall. Above the glacis and leading to the platform is a paved entry area. A large public building, built on top of the platform, is associated with the glacis and platform. This building has at least five small chambers, about 1×3 metres in size, formed by narrow walls one brick (30 cm) wide. These rooms are encircled by a two-course-wide (60 cm) outside wall with buttresses every 150 cm. All the walls are roughly plastered both inside and out. One of the chambers was excavated in its entirety. The extant height of the walls is about 160 cm. The floor was clean of any sherds, bones, etc. In fact, it was very difficult to distinguish the floor from the wall-fall and fill above it. There were no doors in any of these chambers. Beneath the floor was a hard, brick packing which confirmed that we had reached the bottom of the room. Considerable ceramic material was found in the upper levels of the fill, but the lower levels were virtually clean. The pottery found was entirely domestic (cooking vessels) and included no distinct diagnostic sherds typical of the Ninevite V period that we suspect is represented here.

#### Phase B2.2

This phase is a simple rebuilding of the previous phase. The glacis and brick platform are re-used while the upper building is rebuilt with the same floor plan. Both the exterior and interior walls follow the same orientation of the earlier-phase walls. Very little is left from this later phase, only a course or two in places along with their associated floors.

### 3.3 Interpretation

The prehistoric period represented, although in a very limited area, seems consistent with what has been found in other areas of the site. The domestic nature of the architecture and the disposal area imply a residential area in contrast with the commercial area (kiln) found on the opposite side of the tell. The ceramic evidence aligns closely with the Halaf/Ubaid period previously proposed, although no detailed studies have been done on the limited pottery corpus that currently exists.

The third-millennium architecture is significant for an understanding of both Tell Ziyada and the surrounding region. Since the only third-millennium material previously found at Ziyada consisted of simple mud-brick architecture and a large disposal area, the sizable mud-brick structure found this past season marked a decidedly novel shift. We are consequently forced to give greater importance to the role played by Ziyada during the early third millennium. The glacis is probably to be understood as a defensive measure only against the forces of nature, i.e., flooding of the nearby Khabur. Since the level of occupation at the end of the prehistoric period is about level with the plain, and since the plain is easily and often flooded, it is logical that a glacis would be constructed to protect structures from flooding. The platform and related building can be explained as a food storage facility. Small, deep chambers without doors surrounded by a large, brick platform from which grain could be deposited and recovered is the most logical interpretation of this structure. The paved entryway may have led to a staircase or ladder through which one could access the top of the structure in order to drop the supplies to be stored into the chambers below. The lack of pottery on the floors of rooms, and the secondary deposit nature of what pottery we did find, also strengthen this proposal.

Finally, we can add that communication with other archaeologists in the region has disclosed at least two other identical features and related interpretations. Both Glenn Schwartz at Tell Raqai and Dietrich Sürenhagen at Tell Mula Mutar have found similar features and have independently arrived at identical interpretations. What becomes immediately significant is the question of the larger cultural circumstances which produced these analogous architectural features in close proximity to each other.

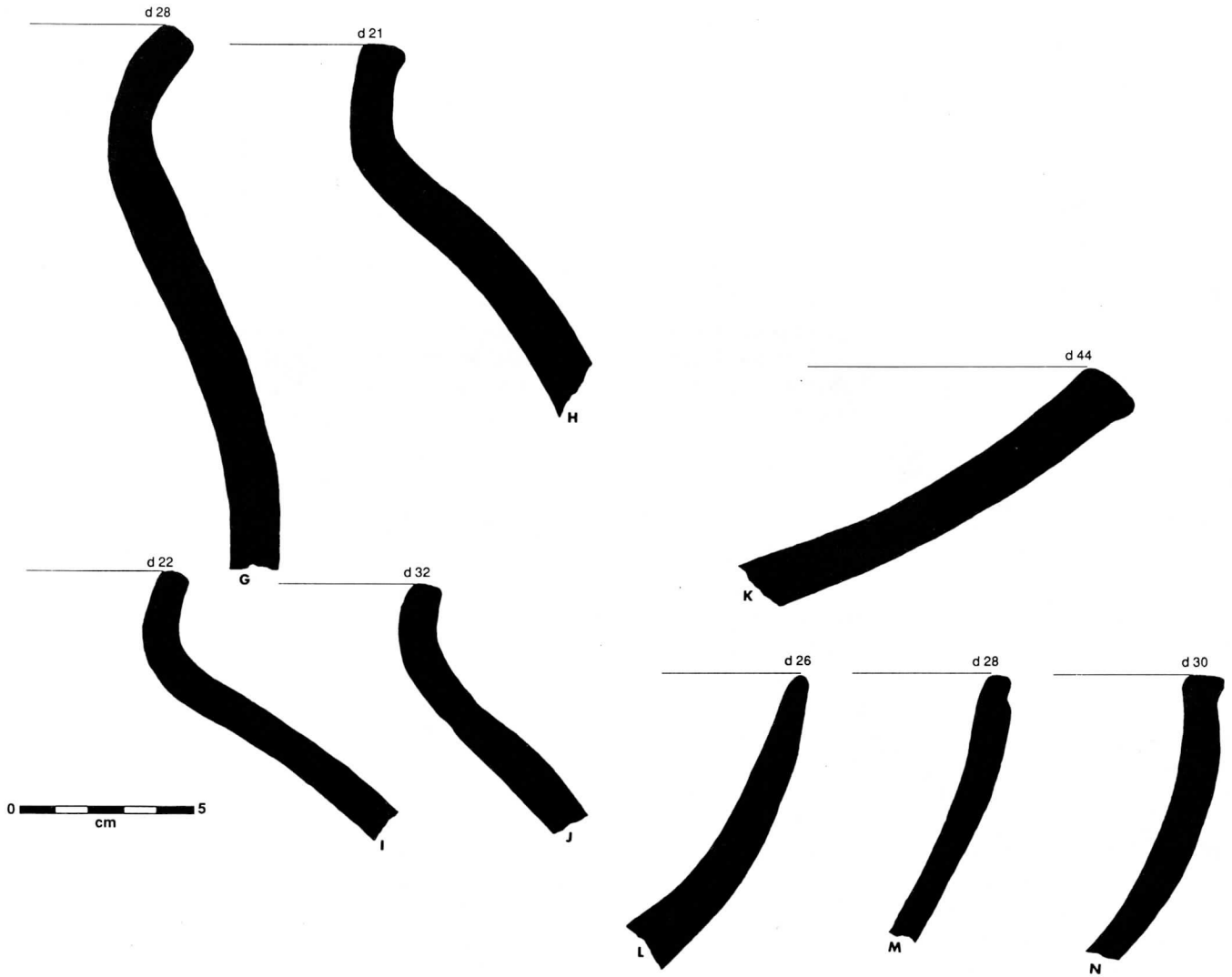


Figure 15: Ceramics from Area N (numbers refer to pottery lots)

- G. N1q13p
- H. N1q8p
- I. N1q3p
- J. N1q1p
- K. N1q20p
- L. N1q2p
- M. N1q2p
- N. N1q10p

## PART 4. TOPOGRAPHIC SURVEY AND COORDINATE GRID

Stephen M. Hughey,  
Professional Land Surveyor

The topographic survey of Tell Ziyada was performed on 28 June 1987 during the fourth season of Tell Mozan, where the writer was serving as Staff Surveyor. Thanks to five students from Ambassador College, the six-person field party was able to depart Tell Mozan, collect 289 topographic control points, set ten 'monuments' to perpetuate the coordinate grid, and return to Mozan in time for the evening meal. The data was collected using a theodolite with stadia, and recorded on paper since an electronic total station and data collector were not available that season. The data was reduced and plotted in February 1988 using software produced by the Lietz Company, U.S.A.

Two reference maps were kindly made available to us by the Syrian Department of Antiquities and Museums. The sites shown on the vicinity map have been plotted from the 1:25,000 and the elevation datum was taken from the 1:2,500. An assumed point of origin and a basis of bearings for the coordinate grid were selected without regard to that of the reference maps. For the basis of bearings, a series of magnetic observations were made and averaged from several of the traverse stations. A point of origin for the coordinate grid was assumed which would result in a maximum of three digits left of the decimal point. Sitings to modern cultural features, such as distant house corners and telephone poles, were recorded to insure the perpetuation of the basis of bearings in the event the survey monuments could not be recovered during subsequent seasons.

Because of the limited time available for the field-work, and the inexperience of the 'chaining' party, the closure for the 360 metres in the traverse was only 1:2,000 in spite of double 'chaining' of all the 'legs' of the traverse. This was adequate for the purposes of the survey, and the 18 cm closure distance was distributed proportionately weighting heavily the interior angles of the traverse figure.

Requests for folded blueprints of a 1:400 scale of the topographic survey as published, a 1:400 underlay showing all the control points, or a 1:50 scale of Area N may be sent with a self-addressed, stamped legal-size envelope to:

S.M. Hughey & Associates  
7252 Remmet Avenue, Suite 205  
Canoga Park, CA 91303, U.S.A.

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## APPENDIX. DESCRIPTION OF RIM AND VESSEL DRAWINGS

Z1C2q010p-3: rim sherd, medium bowl, painted exterior, slightly everted rim, fine sand and gypsum temper, some mica visible on exterior, very finely wet smoothed, no slip, motif large area of negative space with solid dot, mohs 3, medium fire, CO fabric 5yr 7/4, paint 5yr 3/2, dia. 18.20 cm, found inside kiln, Halaf/Ubaid.<sup>29</sup>

Z1C4q011p-4: body sherd, medium small jar, painted exterior, probable two-part construction, gypsum temper only, biconical or piriform body shape, dense paste, no air voids, wet smoothed overall, slipped exterior but poor adhesion, interior hand wet wiped, finger impressions on interior, pigment partially fugitive, motif on exterior only of horizontal bands and horizontally oriented bucrania?/bird? pattern, mohs 3, incomplete fire, found inside kiln, color fabric 5y 8/1, paint 5yr

<sup>29</sup> Oates 1987:Fig. d.

5/6-3/2, Halaf/Ubaid.<sup>30</sup>

Z1D2q003p-6: rim sherd, small bowl with out-turned and flattened rim, painted exterior, fine plant and gypsum temper, finely made round-bodied bowl, wet smoothed overall, self slipped exterior under paint, even thin walls, paint lustrous, geometric motif of horizontal bands and triangles but finely executed, mohs 3, good burnout, color fabric 5yr 7/4, paint 5yr 3/1, dia. 10.2 cm, Late Halaf-Early Ubaid.

Z1D2q003p-7: rim sherd, small bowl with out-turned and beaded lip, small cord groove on neck, painted exterior, fine plant and gypsum temper, wet smoothed overall, paint thick and lustrous, geometric motif of horizontal bands and triangles, but finely executed, mohs 3, medium fire, good burnout, color fabric 5yr 7/3, paint 4yr 4/2, dia. 12 cm, Late Halaf-Early Ubaid.

Z1D2q003p13: rim sherd, medium bowl with incurving body to vertical lip, lip thinned, wet smoothed overall, fine sand, plant and gypsum temper, motif less well applied than on p-6 and p-7 above but still lustrous, mohs 3, medium fire, good burnout, color fabric 10yr 7/3, paint 5yr 4/3, dia. 14.25 cm, Early Ubaid. List of objects mentioned.

Z2C1i76: small bowl/cup, painted exterior, everted rim, incurving walls, fine plant and gypsum temper, wet smoothed, figurative beaked bird motif, grey core, mohs 3, medium fire, color fabric 5yr 7/6, paint 5yr 3/1, dia. 14 cm, Ubaid.<sup>31</sup>

Z2C5-C6q155p-4: rim sherd, medium bowl, incurving walls, slightly thinned lip, painted exterior, motif of triangles and horizontal bands, medium plant and sand temper, wet smoothed exterior and interior, mohs 3, high fire, good burnout, color fabric 5yr 6/4, paint 5yr 2.2/1, dia. 20 cm, Ubaid.

Z2C5q153p-3: rim sherd, medium-small bowl, medium plant temper, painted exterior, mohs 3, medium fire, geometric motif, color fabric 10yr 7/4, paint 5yr 4/1, dia. 18 cm, Ubaid.

Z2C5q155p15: body sherd, painted exterior, medium plant and gypsum temper, mohs 3, medium fire, incomplete burnout, partially slipped, geometric motif of bands and dots, color fabric 2.5yr 6/6, paint 2.5yr N/4, Ubaid.

Z2C6q156p-6: body sherd, painted exterior, medium fine plant, sand and gypsum temper, wet smoothed exterior, self slipped, motif of horizontal bands and negative 'eye' or leaf pattern, mohs 3-4, medium high fire, complete burnout, color fabric 10yr 7/3, paint 10yr 3/1, same fabric and motif as Z1C2q12p-7 painted bowl found inside kiln, Early Ubaid.<sup>32</sup>

Z2G1q100p-1: painted body sherd, medium plant and gypsum temper, wet smoothed exterior, geometric motif, mohs 4, medium fire, color fabric 10yr 8/3, paint 10yr 3/1, th.0.62 cm, Ubaid.

Z2G2q073p-2: painted body sherd, medium fine plant temper, wet smoothed exterior, floral motif, mohs 4, medium fire, color fabric 5y 7/3, paint 10y 5/6, th.1 cm., probable Ubaid.<sup>33</sup>

Z2G3q104p-1: painted body sherd, medium plant and sand temper, wet smoothed exterior, motif of alternating waves and bands of paint, mohs 5, medium-high fire, color fabric 7.5yr 8/2, paint 7.5yr N/4 dark grey, th.1.20 cm, Late Halaf.

Z2H2q031p-3: shallow bowl, medium coarse plant and sand temper, wet wiped exterior, scored horizontal and vertical lines on interior, mohs 3, medium fire, color 5yr 6/6, dia. 26 cm, Late Uruk.

Z2J2q004p-4: small bowl/cup, painted exterior, sloping walls, plain rim, fine plant and gypsum temper, wet smoothed exterior, geometric motif, mohs 3, medium fire, color fabric 10yr 6/1, paint 10yr 4/1, dia. 14 cm, Ubaid.

Z2J2q004p-6: small bowl, painted exterior, incurving rim, medium plant and gypsum temper, wet smoothed exterior, linear geometric motif, mohs 3, medium fire, color fabric 7.5yr 6/4, paint 7.5yr N/4, dia. 14 cm, Ubaid.

Z2J2q014p-5: medium bowl, painted interior and exterior, incurving rim, slightly flattened lip treatment, medium fine plant and gypsum temper, wet smoothed exterior, linear geometric motif, mohs 5, high fire, color fabric 10yr 7/3, paint 10yr 5/1, dia. 16 cm, Ubaid.

<sup>30</sup> Mallowan and Rose 1935:Fig. 68 no. 2; Mallowan 1936:Fig. 26 no. 17.

<sup>31</sup> Oates dates similar piece to Late Ubaid (Oates 1987:Fig. 3).

<sup>32</sup> Oates 1987:194 Fig. 2b.

<sup>33</sup> See Mallowan, Iraq 2/1:Fig. 34 nos. 3-5 for examples of floral Ubaid.

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# BULLETIN

## 21

May 1991

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