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THE YARMOUKIAN POTTERY ASSEMBLAGE OF TELL ABU SUWWAN, JORDAN

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ABSTRACT

The archaeological excavations conducted at the site Tell Abu Suwwan indicated that it was continuously occupied during two main periods from the Middle Pre-Pottery Neolithic B through the Pottery Neolithic (Yarmoukian). The main focus of this paper is to study the pottery assemblage encountered in the Yarmoukian strata at Abu Tell Suwwan. Excavations at Tell Abu Suwwan in 2005 - 2008 yielded a total of 488 pieces of Yarmoukian pottery. The sample under study includes 86 Yarmoukian pottery sherds that came from *in situ* contexts ascribable to the Yarmoukian period/culture. This research studied the Tell Abu Suwwan pottery assemblage in detail and presents a parallel study with contemporaneous pottery developments in the southern Levant. The comparative study of indicates that the Wadi az-Zarqa basin was settled during the second half of the seventh millennium BCE (calibrated) with farming communities. The inhabitants of the Yarmoukian sites around Tell Abu Suwwan manufactured similar pottery forms and wares. The results of this study indicate that pots were probably produced at individual sites. However, the notion that there might have been a center of Yarmoukian pottery production in the Wadi az-Zarqa during the Late Neolithic is still under consideration.

KEYWORDS: *Late Neolithic, Yarmoukian, Vessels Decoration, Zarqa River, Jerash*

1. INTRODUCTION

The Neolithic site of Tell Abu Suwwan is located east of the Roman city Jerash, ca. 500 meters to the east of the Amman-Jerash ancient road. The site sits on the west bank of Wadi Jerash, which empties in the az-Zarqa River. The site's probable size is 10.5 hectares (26 acres) according to the survey done by the Tell Abu Suwwan team in 2005. However, the excavated area is only approximately 0.6 hectare. Several terraces were recently built by the landlords of the site for cultivating vegetable crops. The area around Jerash contains many fruit and olive orchards. The land of the site is fertile, and there were several perennial water sources in the vicinity of the site ('Ain el-Qerawan inside the city of Jerash and the az-Zarqa River, in addition to the Wadi Jerash). Moreover, two large cisterns were recently dug into the site for rainwater collection.

The Neolithic village was established in the Wadi az-Zarqa basin midway between the river's source near Amman, and its mouth, where it empties into the Jordan River. Several other Neolithic villages were established in this basin, such as 'Ain Ghazal, eh-Sayyeh and Abu Thawwab (Figure 1). This high occupation density suggests intensive settlement during the Neolithic period. Archeological data from Tell Abu Suwwan suggest that it was linked to both the Jordan Valley and others in the highland and the Jordanian Badiya during the Neolithic period. The excavators of the Wisad site in the Badiya uncovered typical Yarmoukian flint tools and a single Yarmoukian pottery sherd decorated with herring-bone incision (Wasse *et al* 2011; 2013).

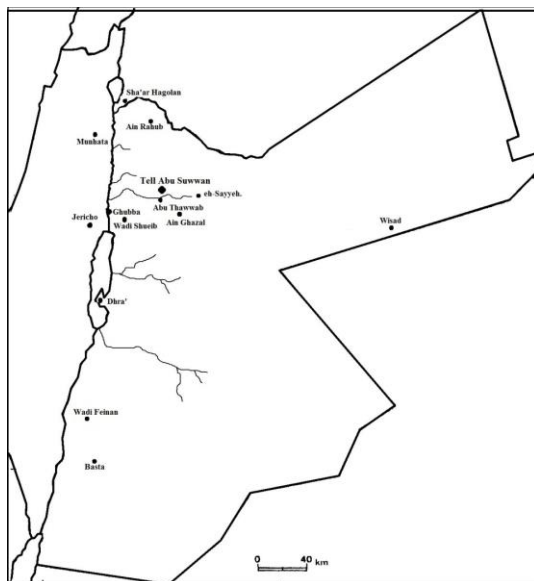


Figure 1: The pottery Neolithic sites in the southern Levant

Tell Abu Suwwan was first recorded by Lancaster Harding (1948) and sounded in 1955 by Diana

Kirkbride (1958). Kirkbride recognized two main occupational periods at the site: the Paleolithic and the Pre-Pottery Neolithic. After that, the site has been revisited by several scholars, but no excavations were carried out until 2005.

The University of Jordan conducted five seasons of regular excavations in the period from 2005 to 2008. The excavator has published several articles studying the Pre-Pottery Neolithic B settlement (al-Nahar 2013; 2009; 2008). This article discusses the Late Neolithic period (the Yarmoukian culture) at the site with a concentration on the excavated pottery remains.

2. CHRONOLOGICAL AND STRATIGRAPHIC SEQUENCE:

Figures based on both the stratigraphic sequence of the excavated deposits and the C14 dates obtained, Tell Abu Suwwan, the Neolithic village was first established during the last phase of the Middle Pre-Pottery Neolithic B (ca. 8250 - 7500 BCE). Moreover, it seems that the Neolithic village flourished during the Late Pre-Pottery Neolithic B (ca. 7500-7000 BCE) (Yarmoukian period). During this period the inhabitants of Tell Abu Suwwan had their own distinct architectural types. A unique squared gridded building type has been uncovered in Area B. This structure has been constructed during the Middle PPNB. It was modified gradually and used all through the Neolithic occupation at the site. The building was abandoned by the end of the Late Neolithic "Yarmoukian Culture" in (ca. 6000 BCE) (5. TABLES AND FIGURES

Table 1). This type of building is reminiscent of similar grill planned buildings excavated at the site Çayönü, which is located on the piedmont of the southeast mountainous ranges between the Euphrates and Tigris/Anatolia. These structures at Çayönü were dated to the Pre-Pottery Neolithic A and B (Özdoğan 1999: 35 - 65).

2-1 Dating:

The pottery assemblage excavated at Tell Abu Suwwan was dated according to the cluster of C14 dates obtained from the site (5. TABLES AND FIGURES

Table 1), the stratigraphical sequence, and the parallel examples of the Yarmoukian pottery uncovered at other Yarmoukian sites in the southern Levant such as Munhatta, Sha'ar Hagolan, Abu Thawwab, 'Ain Ghazal and Wadi Shu'eib.

Moreover, and as a result of the preliminary study of the lithic assemblage encountered at Tell Abu Suwwan, the same type of tools have been found accompanied with other Yarmoukian pottery

assemblages (al-Nahar 2013: 122). For example, the Yarmoukian levels at Tell Abu Suwwan produced denticulated sickle-blades and very small arrowheads, similar to those found at 'Ain Ghazal, Abu Thawwab and Giv'at Haprsa (al-Nahar 2013:121).

In addition, a number of C14 dates ranging from 9.048 ± 59 (14C BP non-calibrated) to 7.304 ± 97 (14C BP non-calibrated) were obtained from the site. Three C14 dates assigned to the PPNC/Yarmoukian and two dates from the Yarmoukian levels were published (al-Nahar 2013: 122, 5. TABLES AND FIGURES

Table 1).

2-2 Tell Abu Suwwan Stratigraphy:

Two major areas were first opened and excavated during the first season in 2005 and continued in the seasons 2006, 2007 and 2008 (Figure 2). These areas were A and B. A 5 x 5m. grid was located for each area (Al-Nahar 2013; 2009; 2008 "Arabic"; 2006).

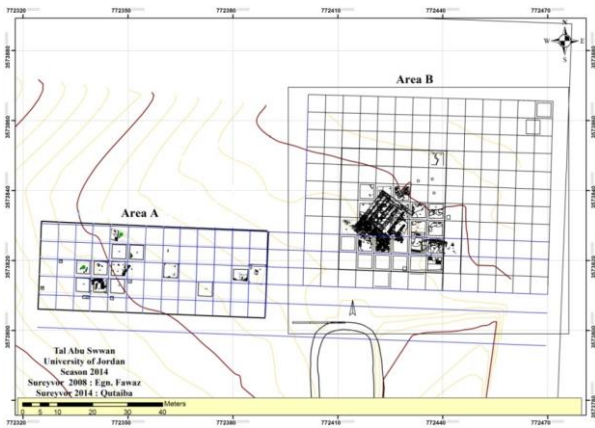


Figure 2: Tell Abu Swwan (Area A and B)

The archaeological excavations conducted at the site Tell Abu Suwwan indicated that it was continuously occupied during two main periods from the Middle Pre-Pottery Neolithic B through the Pottery Neolithic (Yarmoukian).(5. TABLES AND FIGURES

Table 1). Several archaeological factors have been taken into consideration in recording and studying the strata and sub-strata, such as the stratigraphical sequence, the C14 dates, and the excavated archaeological data (especially the lithics and pottery), the layers levels and other recognized archaeological features.

Below we present a discussion to the Pre-Pottery and Pottery strata recorded at the site. To show the Yarmoukian layers, we present two archaeological excavated sections (Figure 3) The first section illustrates the west face and section of wall "D" within the "Grill Building" in Area "B". It precisely shows

the wall courses, the accumulated deposits and the white powdery Yarmoukian floor- connected with the building (Section I). The second example also belongs to Area "B", the west section of Square K6 and located exactly outside the Grill Building (Section II).

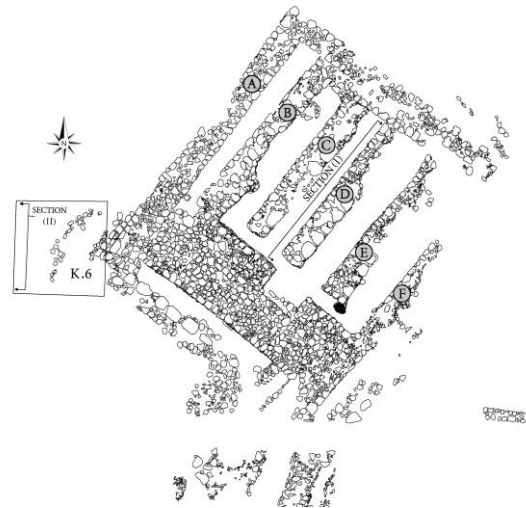


Figure 3: Tell Abu Suwwan, Area B "Grill Building", (sections I and II)

2.1.1 The 'D' wall/ west face (section I)in area B within the "Grill Building"(Figure 4):

During the excavation operations in the "Grill Building" we noticed that Wall "D" was added during to the MPPNB construction during the LPPNB. Moreover, the area between walls C and D was sealed by a white powdery floor (Figure 3, and Figure 4) which was firmly dated to the Yarmoukian period. All the archaeological material excavated on top of this floor and above the most upper course of Wall D belongs to the Yarmoukian period. The Yarmoukian occupants, while adding the top course in wall D, closed the entrance in the south end of the wall (see Figure 4-section I).

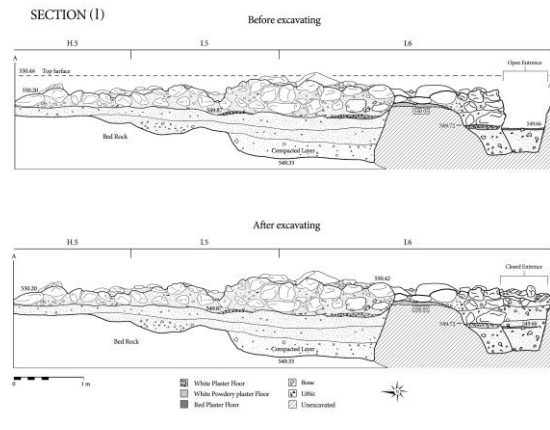


Figure 4: Area B- West D Wall face (section I)

2.1.2 West Section (Elevation) of Square K6 (Figure 5):

The main focus of this paper is to study a pottery assemblage encountered in the Yarmoukian strata at Abu Suwwan. Thus we present a detailed study for the strata observed in the west elevation of Section K6. We also offer a general description of the Pre-Pottery strata represented in this profile.

To start with, the represented Yarmoukian stratigraphic sequence recorded in K6 West Section (Figure 5) is as follows:

1-The top layer (1) was disturbed by cultivation and agriculture activities. This layer ranged from 20-50 cm in depth at the site. Despite this disturbance, this layer included numerous cultural materials. It was identified during the excavation as anthropogenic reworked sediment (locus 00). It is described as a mixture of a silty clayish, loose, and coarse earth layer with small size gravels. It has high density of roots and micro roots. The munsel color is: 10YR 4/3 Brown.

The stratum below (layer 2) is dated to the Yarmoukian period and is 1m thick (Figure 3 - see section I). It consists of several layers and floors; they are as follows:

Layer (2) Compacted, intact deposits. It is clayish matrix with fine to medium grain. Cultural material exists and it could be a secondary deposition.. The matrix contains a high percentage of gravel and micro roots and is a greyish brown (10YR 5/2). The upper part of this layer continued in the adjacent squares. In a later analysis, because we found similar deposition, we realized that this upper part represent a thick cemented gravel floor covered with fine lime.

Layer (3) is an ancient root filling. Layer (4) is very hard compacted floor ill-sorted. It includes ash mixed with medium size gravel. The micro roots are very small. No fragmented cultural material. Color: 10YR 6/4 light yellowish brown. Layer (5) has the same description as (2). Layer (6) is clayish sediment moderately compact. It includes fine to medium sand and contains mixed size gravel. It contains cultural material, which indicates that there might be a break between the higher layer and the lower one. Layer (7) is an extremely hard and compact clayish fine matrix with medium to fine gravel. It has an irregular form and the thickness varies. Below it there are several borrowing holes. Layer (8) has reworked gravelly sediment and is very compact. It contains cultural material of bones and lithic. Its color is brown (10YR 5/3).

The underlying layers are radiocarbon dated to the LPPNB and the MPPNB. These strata included several mud and plaster floors.. The sediment varies from moderately compact to very hard compact sediments. These layers included PPN cultural material.

To conclude, the stratigraphic sequence of the West section of square K6 is mixed, with Yarmoukian layers located over the LPPNB and MPPNB deposits.

To sum up, the above two sections indicate that the pottery assemblage under study came mostly from pure Yarmoukian strata. Unfortunately no intact pots were revealed at Tell Abu Suwwan. But the pottery sherds included in this study came from the upper layers of the "Grill Building" and from the other squares outside the building in areas A and B. The Yarmoukian layers at the site ranges in thickness between 0.50- 1 m.

In addition, it must be declared that the site is situated on a slope; and the upper part of this slope thinner than the lower part.

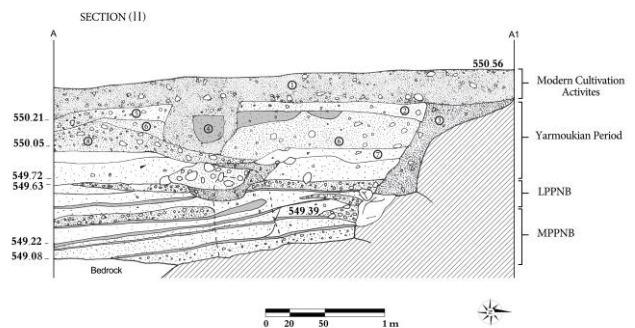


Figure 5: Area B, Square K6-West section (section II)

3. ABU SUWWAN YARMOUKIAN POTTERY ASSEMBLAGE: (Table 3)

The gradual process of the Neolithic development in the Ancient Near East has previously been divided into Pre-Pottery and Pottery Neolithic (Kenyon 1957), and, in some other cases, into Early and Late Neolithic (Kafafi 1982), and Aceramic and Ceramic (Gebel 1984). Nevertheless, the Pottery Neolithic period, which has been characterized by the production of clay vessels in the southern Levant, includes several traditions such as the Yarmoukian, Pottery Neolithic A, and the Ghrubba assigned to a period ranging from ca. 5600 - 5000 BCE (uncalibrated), and the Wadi Rabbah and Jericho Pottery Neolithic B attributed to a period from ca. 5000 - 4500 BCE (Garfinkel 1999; Kafafi 1999). It should be noted that the terms Pottery Neolithic A and B periods were assigned by K. Kenyon instead of Garstang's Jericho IX and VIII consequently. In the meantime, the terms Yarmoukian and Wadi Rabah are cultural terms and the first is contemporaneous with Jericho PNA and the second is parallel to Jericho PNB.

Excavations at Tell Abu Suwwan in 2005 - 2008 (al-Nahar 2013; 2009; 2008) yielded a total of 488 pieces of Yarmoukian pottery (including pottery sherds, bases, rims ...etc.). The sample under study

includes 86 Yarmoukian pottery sherds that came from *in situ* contexts ascribable to the Yarmoukian period/culture. The following discussion studies the Abu Suwwan pottery assemblage in detail and presents a parallel study with contemporaneous pottery developments in the southern Levant.

The Yarmoukian pottery assemblage encountered at Tell Abu Suwwan and under discussion below has parallels from other well stratified assemblages dated to the period ca. 6500 - 6000 BCE Calibrated (Kafafi 2001; 1990; 1989; Garfinkel 1992;1999).

Several studies discussed Yarmoukian pottery assemblages from other sites in the southern Levant (eg. Kafafi 1990; Obeidat 1995;Garfinkel 1992; 1999). In this study we are applying the same methods and criteria for analyzing the Yarmoukian assemblage collected from Tell abu Suwwan.

3.1 Ware:

The classification of the type of ware of the pottery sherds used in this study is based on the following criteria: 1) Firing (if the sherd has a core, cracked and/or pitted); 2) The type of inclusions or tempering (small, medium, or large inclusions).

The ware analysis of the Abu Suwwan pottery sample is summarized in Table 3. All of the 86 sherds are classified as coarse and medium wares, reflecting the dominance of utilitarian jar and bowl assemblage. No fine ware has been encountered in the forms within the Abu Suwwan assemblage, although it was visible in the contemporaneous assemblages found at Jebel Abu Thawwab (Kafafi 2001) and 'Ain Ghazal (Kafafi 1990:15).

3.2 Decoration:

Several surface treatments including slipping, smoothing, painting, incising and two examples of nail impression were identified in the assemblage. There were commonly a combination of those decorative elements on the same sherd. Below we present a brief description of each style of surface treatment:

3.2.1 Incision:

Incisions were made with a sharp tool while the clay was leather hard. The design was created of repeated chevrons either in single or double rows within two parallel lines and the incised decorations make a triangular shape.

3.1.2 Paint:

Red pigment was the dominant color used on painted sherds, most likely the same red ochre that was used on painted Pre-Pottery Neolithic B plastered floors. The paint was typically added in large fields that either covered the entire exterior of the pot or dominated areas set off by incised herring-bone decorations.

3.1.3 Slipping and Smoothing:

A large number of the pottery sherds under study were slipped and smoothed. After applying the reddish-yellow colored slip, the potter smoothed the exterior of the vessel by hand. This kind of surface treatment was used for most of the sherds under discussion.

3.2 Pottery Types/Forms:

The Abu Suwwan pottery assemblage contains six major types, including bowls, platters, cooking-pots, jars, cups and probable lamps. However, bowls and jars are the dominant types (Table 3). Clay used for manufacturing pottery vessels is available in the Wadi az-Zarqa. The geographic proximity of available clay might mean that the pottery assemblage excavated at Abu Suwwan was locally made. Unfortunately, no Neolithic pottery kilns nor intact pots have yet been excavated.

3.2.1 Bowls (Nos. 1- 20, 23 -30):

Table 3 shows that sherds belonging to bowls represent almost a quarter of the selected pottery sherd assemblage. Most of bowls are deep, but vary in sizes from small to medium, large and very large and all are hand-made. The paste of these vessels was tempered with straw and basalt and limestone inclusions.

Most of the vessels under study are simple and have no surface treatments, though a few others were decorated with incised, painted, or, in some cases, with both decorations. The incised decorations consist mostly of a line of herring-bone design between two parallel lines. It should be noted here that this decorative element varies in size and shape. Some of them were larger than the others and deeply incised (Nos. 20, 23, 24, and 26). It might be that the potter used a sharp instrument to engrave this decorative element to the pot while the ware was leather hard.

The smaller ones are smaller and different in shape and design from the large ones. In this case the decorative element looks like a spike rather than a herring bone (No.25). These decorations were added to the exterior of the bowl just a little bit beneath the rim.

Some of the bowls were slipped by a reddish yellow or reddish gray slip. Nos. 21, 22, 25,27, 29, and 30 are painted with mostly red and reddish yellow colors. Sometimes the slip was added as a band on the rim and, in other cases, as diagonal red bands that cover the whole body of the exterior of the bowl (No. 27). Table 3: Nos. 23-27 were painted and incised. Some of the bowls are straight sided (Nos. 1-10, 14 - 15, 19 -20, 23, 25 - 28, and 30), while others have curved walls or are globular in shape (Nos. 11-13, 16-18,24, and 29). The rims are mostly simple

rounded forms and, in a few cases, taper at the tops (Nos. 9, 19, 28, and 30). The bases are mostly flat and disk shapes (Nos. 59 - 75).

Deep bowls, both simple and decorated, have been excavated at other contemporaneous sites such as at 'Ain Ghazal (Kafafi 1990), Abu Thawwab (Obeidat 1995; Kafafi 2001) and eh-Sayyeh (Bartl and Kafafi: Forthcoming) in the Wadi az-Zarqa basin, Wadi Shu'eib west of the city es-Salt (Simmons *et al.* 2001: Fig. 12: 11, 14), Sha'ar Hagolan (Stekelis 1951; Garfinkel 1992; 1999), Munhata (Perrot 1968; Garfinkel 1992; 1999) in the Jordan Valley and at 'Ain Rahub to the north east of the city Irbid (Kafafi 1989). Recently a single sherd of this type was excavated at the site Wisad Pools in the Jordanian Black Desert region (Rollefson *et al.* 2013: 18-19, Fig. 19).

3.2.2 Platters (Nos. 21-22):

Two sherds Table 3: Nos. 21 and 22) were identified as platters. No. 21 is handmade, has a pink color (5YR 8/4), and is a medium/hard ware which was tempered with straw, basalt and lime inclusions. It has been painted on the interior only with a red paint. This platter is very large and measures ca. 40 cm in diameter.

No. 22 is smaller in size than No. 21. It is approximately 20cm in diameter. Made of a hard ware (core 5YR6/4 light reddish brown), it has been decorated with a red color slip (10R 5/8).

Similar platters were also uncovered in both Palestine and Jordan at Jericho from the Pottery Neolithic A/IX level (Kenyon and Holland 1983: Figs. 4:1,3; 5:21; 17:3; 19: 5;108:26; 214:11), Tel Batash IV (Kaplan 1958: Fig. 8:22) and 'Ain Ghazal (Kafafi: Personnel Communication).

3.2.3 Jars (Nos. 31- 51, 53 -58):

The fourth category of the Abu Suwwan pottery assemblages are jars, and exhibit excellent craftsmanship. They are all made by hand, from either pink or light reddish and reddish yellow colored wares. Also, they are distinguished by their hardness and their inclusions of straw, basalt and lime. Though most of them were well fired, others have cores ranging from very dark gray to dark and gray cores colors. In addition some of the jars were decorated by a red paint (Nos. 31, 37, 38, 39, 44, 45, 47, 48, and 49), while some others (Nos. 34, 40, 44,51, and 57) were slipped with a reddish yellow and pink slip. In several cases (: Nos. 47, 48, and 49), herring - bone incisions were added, mostly to the lower part of the neck or on the shoulders. One jar (No. 46) has impressed decorations. Rims were inevitably simple but a few (Table 3: Nos. 38 and 39) were tapered at the tip and some (No. 45) have an inverted simple rims. Most of the jars had lug (Nos. 41, 43, and 46), loop (Nos. 31, 42, and 44) or knob (No. 57) handles

attached between the neck and the shoulder. Bases were either flat or disc shape.

Two forms of jars are recognized in the Abu Suwwan pottery assemblage, and are as the following:

1. Hole-mouth jars (Nos. 31, 33, 38, 40, 50, 51, 54-58).
2. Necked jars, which is sub-divided into:
 - a. High necked jars (Nos. 32,34-37, 39, 43, 48, 49)
 - b. Low necked jars (Nos. 45).

Parallel jars were excavated at several Yarmoukian sites such as at 'Ain Rahub (Kafafi 1989: Fig. 3: 23-36), Abu Thawwab (Obeidat 1995: Figs 32, 34; Kafafi 2001: Figs. 16-17), 'Ain Ghazal (Kafafi 1990: Fig. 8: 1-7), Sha'ar Hagolan (Garfinkel 1992: Figs. 66, 75, 78), and Munhata (Garfinkel 1999: Fig. 31: 5-6).

3.2.4 Cooking-Pots (Nos. 52-53):

Two pottery sherds of the Abu Suwwan assemblage (Nos. 52-53) were identified as cooking pots. They have traces of smoke and are coarse or medium wares, with basalt and lime temper. The pots are globular in shape with hole-mouths, simple rims, and ledge handles. Cooking pots were also found at Jebel Abu Thawwab (Kafafi 2001: Fig. 19:86).

3.2.5 Cups (Nos. 83 - 85):

Three sherds (Nos. 83 -85) represent cup forms, and are classified as medium ware. Though cups were also encountered at Jebel Abu Thawwab (Kafafi 2001:Fig. 14: 1-2) and 'Ain Ghazal (Kafafi 1990), those examples differed in that they were made of fine ware with thin walls. Late Neolithic cups have simple rims, smoothed and decorated, with both red painted and incised designs.

3.2.6 Probable Lamps (No. 86):

A single example (No.86) has been identified as a probable saucer lamp. What is left from the lamp is only the base and part of the body. The base is flat in form while the body is incurved towards the inside. In other words the lower part of the pot is wider than the upper part. Traces of smoke cover most parts of the body of this sherd, which invites us to argue that it might be it used as a lamp. If correct, this will be the earliest lamp to be published from the Late Neolithic period in the southern Levant. Thus, no parallels were identified at the major Yarmoukian sites.

4. CONCLUSIONS

Several Yarmoukian sites have been excavated in the vicinity of Wadi Zarka area. These sites yielded variant quantities of Yarmoukian pottery. Large quantities of pottery sherds were found at Ain Ghazal, Tell abu Suwwan, and Abu Thwwab. The later sites includ-

ed a firing pit which we believe was used as a pottery kiln. However, in other sites in the Wadi az-Zarqa such as eh-Sayyeh (which sets in the midway between Tell Abu Suwwan and Ain Ghazal), the quantities of pottery were lower. Also, a very small amount of Yarmoukian pottery was exposed at Wisad Pools in the Black Desert north-east Jordan. Even though, the numbers of pottery sherds were scarce at Wisad Pools, their presence suggests an exchange relationship between the Wadi az-Zarqa Yarmoukian sites and the Black desert's Yarmoukian sites.

The comparative study of the pottery assemblage from Tell Abu Suwwan indicates that the Wadi az-Zarqa basin was settled during the second half of the seventh millennium BCE (calibrated) with farming communities such as at the sites 'Ain Ghazal, Abu Thawwab and Abu Suwwan. The inhabitants of these sites manufactured similar pottery forms and wares. The quantities of the Yarmoukian pottery

sherds in the above mentioned sites indicate that pots were probably produced at individual sites. However, the notion that there might have been a center of Yarmoukian pottery production in the Wadi az-Zarqa during the Late Neolithic is still under consideration.

The archaeological evidence from the Abu Suwwan excavations proved that the site underwent very important developments from the Middle PPNB through the end of the Pottery Neolithic/Late Neolithic. The burned sediments and the availability of number of pits at the site in both areas A and B combined with the large number of sherds suggest that the site might have used pottery kiln/s during the Yarmoukian period. Unfortunately, the cultivation activities for the top layer may have destroyed these features. The possibility of finding a clear pottery kiln is a possibility and will be the focus of future excavation seasons at the site.

5. TABLES AND FIGURES

Table 1: Tell Abu Suwwan C14 Dates

ASW YR	AREA	SQ	LOC	14C BP non-calibrated	BC calibrated	Period
2006	A	D4	7	7630 +/- 50	6498 ± 47	PPNC/Yarm
2008	A	D5	39	7,760 +/- 120	6659 ± 153	PPNC/Yarm
2006	A	D5	23	7,975 +/- 62	6888 ± 116	PPNC
2006	A	D4	6	8140 +/- 100	7141 ± 157	LPPNB
2005	A	E2	6	8,380 +/- 56	7446 ± 68	LPPNB
2006	A	D5	23	8,410 +/- 56	7469 ± 68	LPPNB
2006	A	V3	4	8,931 +/- 58	8109 ± 108	MPPNB
2006	A	W3	5	9,048 +/- 59	8267 ± 32	MPPNB
2008	B	CD	4 (White powdery Floor)	7,304 +/- 97	6192 ± 107	Yarmoukian
2008	B	F8	3	7,422 +/- 74	6304 ± 74	Yarmoukian
2008	B	0A	2	7,713 +/- 79	6558 ± 68	PPNC/Yarm
2005	B	J6	10	7870 +/- 50	6755 ± 87	PPNC
2006	B	K6	3	8,259 +/- 49	7306 ± 100	LPPNB
2008	B	F8	6	8310 +/- 50	7380 ± 76	LPPNB
2008	B	K6	27	8,440 +/- 120	7453 ± 118	LPPNB
2008	B	K6	24	8,484 +/- 55	7547 ± 29	M/LPPNB
2008	B	K6	29	8,570 +/- 51	7596 ± 31	M/LPPNB
2008	B	K6	38	8680 +/- 60	7710 ± 81	MPPNB
2008	B	G7/F7	17	8,699 +/- 84	7777 ± 133	MPPNB

Table 2: Tell Abu Suwwan pottery sample

Form	No.	%
Bowls	28	33%
Platters	2	2%
Jars	26	30%
Cooking-pots	2	2%
Cups	3	3%
Probable Lamps	1	1%
Bowls/jars bases	19	22%
Unidentified	5	6%
Total	86	100%

Table 3: Tell Abu Suwwan, Yarmoukian pottery description

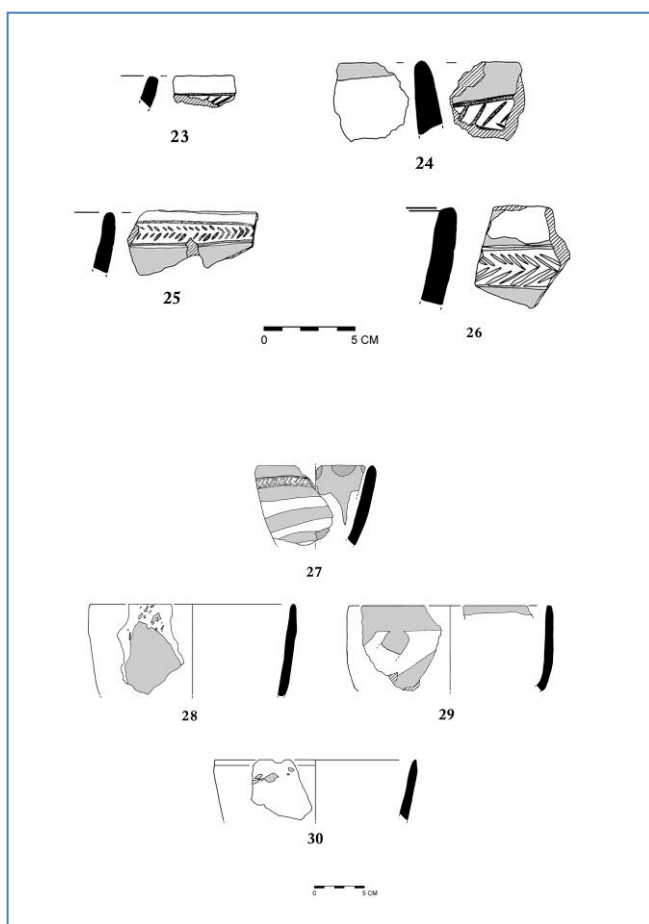
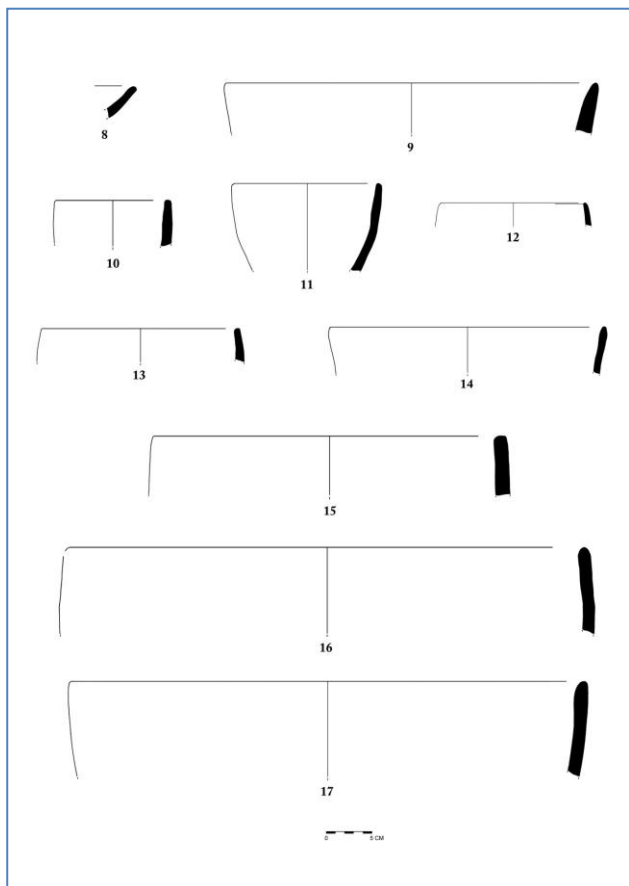
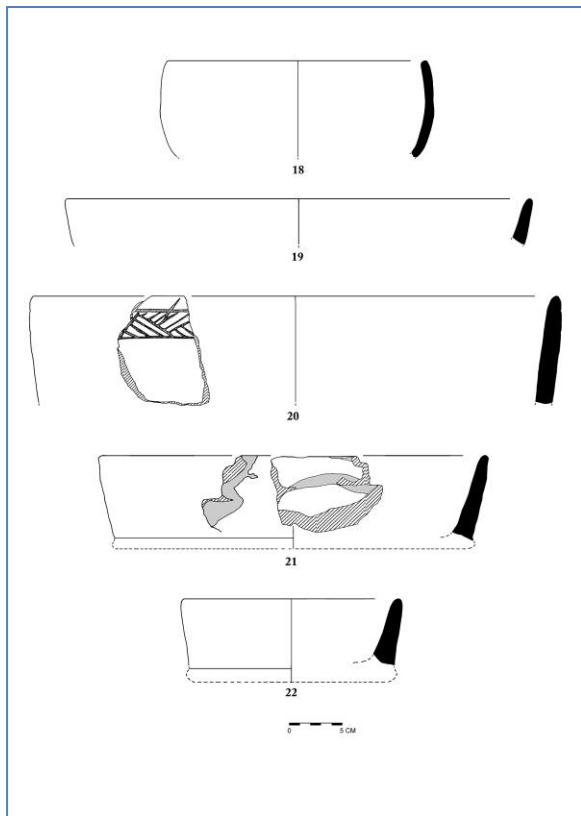
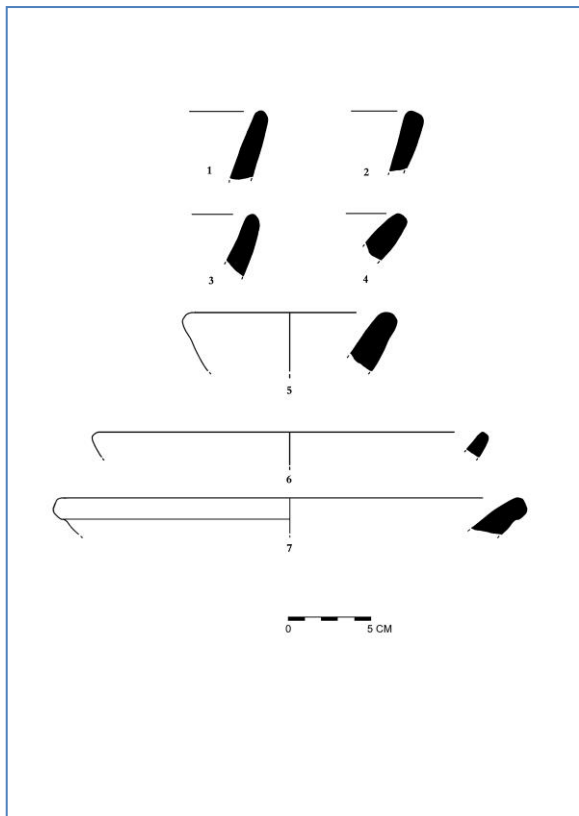
No.	ID	Surface Treatment	Tech.	Ware				Form
				Colour	Hardness	Inc.	Core	
1	ASW 2005 B-J6 -03	Slip 5YR 5/8 (Yellowish Red)	Hand made	5YR 5/2 (reddish gray).	medium.	lime & basalt		Deep bowl
2	ASW2005.B-J6-03	Slip 5YR 5/8 (Yellowish Red).	Hand made	5YR 6/6 (Reddish Yellow)	medium.	lime & basalt.		Deep bowl
3	ASW2006. A-C4 -02	Slip 5YR 6/8 (Reddish Yellow).	Hand made	5YR 7/6 (Reddish Yellow)	medium	straw ,basalt & lime		Deep bowl.
4	ASW2005. A-D5-TR -01	Slip 5YR 5/2 (Reddish gray).	Hand made	5YR 7/6 (Yellowish Red)	medium.	straw & basalt.		Deep bowl.
5	ASW2005. A-F2-02	Slip 5YR 5/2 (Reddish gray).	Hand made	5YR 7/3 (Pink)	medium.	straw ,lime & basalt		Deep bowl.
6	ASW2006. A-C4-02		Hand made	5YR 7/6 (Reddish Yellow)	medium.	basalt		Deep bowl.
7	ASW2005. A-F3-01		Hand made	5YR 6/8 (Reddish Yellow)	soft	large lime & basalt.	5YR 2.5 5/1 (black). Cracked	Large deep bowl
8	ASW2005. B-F2-03		Hand made	5YR 8/3 (Pink)	medium.	straw, small lime & basalt		Deep bowl
9	ASW2008. B-K8-08		Hand made	5YR 7/4 (Pink)	hard.	lime		Deep bowl
10	ASW2007. A-I6/17-00	Slip 5YR 7/8 (Reddish Yellow)	Hand made	5YR 8/3 (pink)	soft.	straw ,lime & basalt	5YR 5/1(very dark gray). Cracked	Deep bowl
11	ASW2006. A-D5-20		Hand made	5YR 8/4 (pink).	medium.	straw, basalt & lime		Deep bowl
12	ASW2006. A-D5-21		Hand made	5YR 8/4 (pink)	hard.	basalt & lime.		Deep bowl
13	ASW2008. B-DA-02	Slip 2.5 YR 4/6 (red)	Hand made	5YR 8/3 (Pink)	medium.	straw & small		Deep bowl
14	ASW2005. A-F3 -01	Slip 7.5YR 7/6 (Reddish Yellow)	Hand made	7.5YR 7/6 (Reddish Yellow)	hard.	small basalt.		Deep bowl
15	ASW2005. A-F3-01	Slip 5YR 7/6 (Reddish Yellow)	Hand made	7.5YR 8/4 (Pink)	hard.	basalt & lime		Deep bowl
16	ASW2007. A-Bulk D5/D4-05	Slip 5YR 6/8 (reddish yellow)	Hand made	5YR 8/4 (pink).	medium.	straw & basalt.	5YR 6/1(gray)	Very large deep

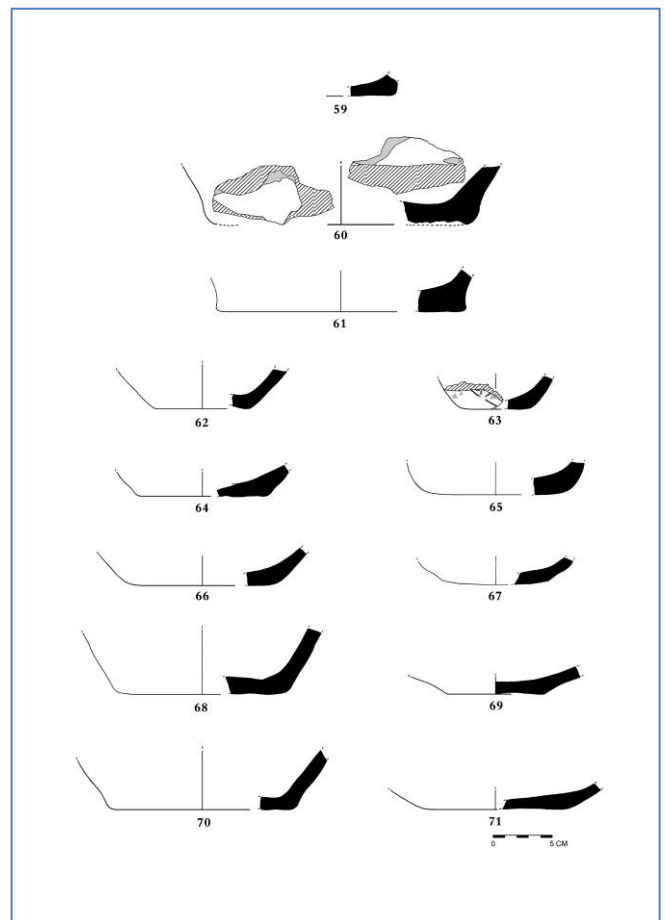
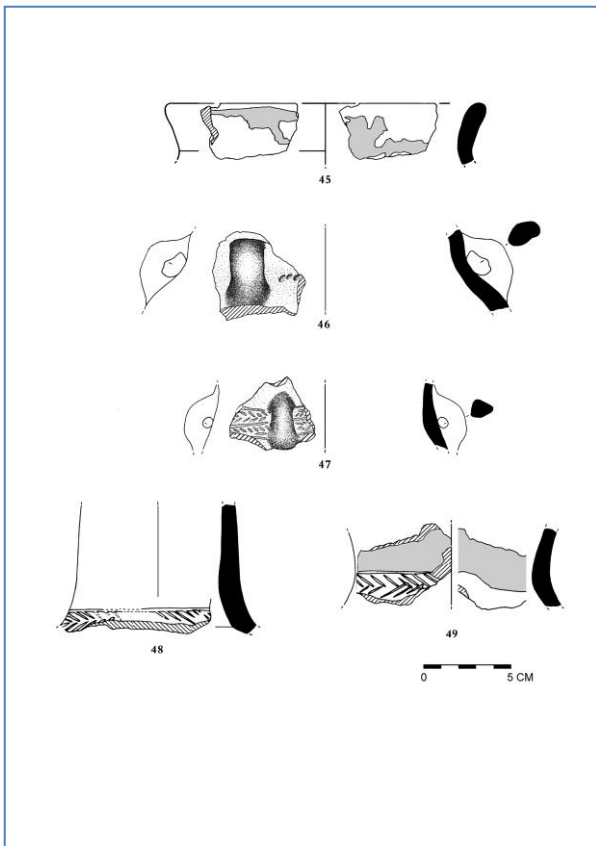
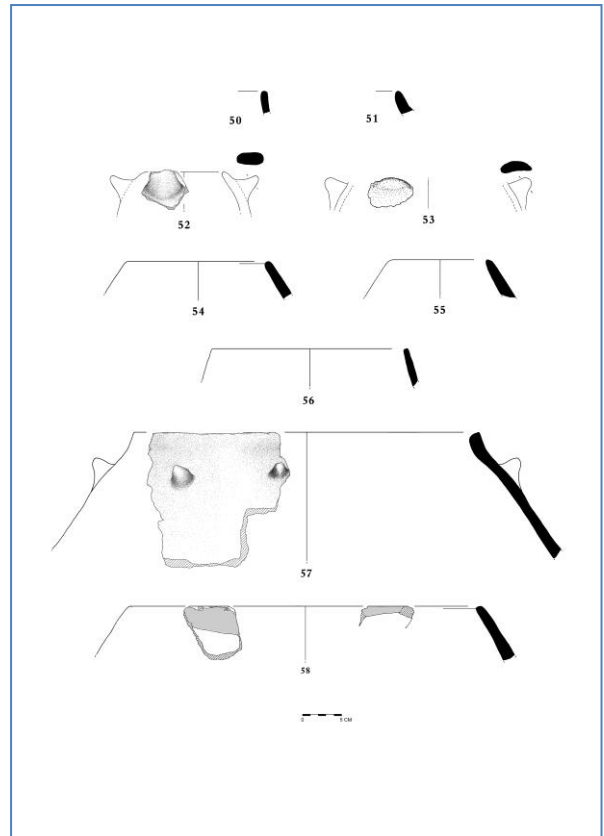
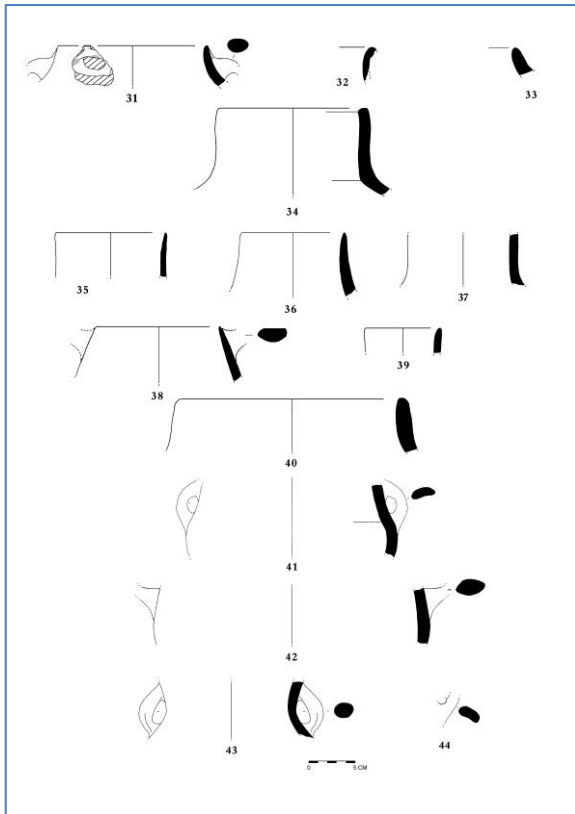
								bowl
17	ASW2008. B-H7-12		Hand made	5YR 7/4 (pink)	hard	basalt & lime	5YR 4/1(dark gray)	Very large deep bowl
18	ASW2006. A-D5-19		Hand made	7.5 YR 7/4 (Pink)	medium.	straw large, lime & basalt.		Deep bowl
19	ASW2006. A-C4-04		Hand made	2.5 YR 6/6 (light red) .	medium.	Straw ,lime & basalt		Deep bowl
20	ASW2006. B-surface collection	Incising: herring-bone incisions.	Hand made	2.5YR 6/6(light red)	medium.	lime & basalt	5YR 5/1(gray)	Very large deep bowl
21	ASW2007. A-D4/D5-02	Paint 10R 5/6 (Red) on interior only.	Hand made	5YR 8/3(Pink)	medium.	straw ,lime & basalt.		Large Platter
22	ASW2008.B-G8-08	Paint& slip: 10R 5/8 (Red)	Hand made	5YR8/4(pink)	hard.	basalt.	5YR6/4(light reddish brown)	Small Platter
23	ASW2008. B-I8-05	Incising: herring-bone incisions.	Hand made	5YR 8/4 (Pink)	medium.	straw & lime		Deep bowl
24	ASW2007. B-I6/I7-00	Slip 7.5YR 8/6 (Reddish Yellow) Incising: herring bone incisions.	Hand made	7.5YR 7/4 (pink)	medium.	lime.		Deep bowl
25	ASW2006. A-C4-04	Paint: 10R 4/6 (red). Incising: herring-bone incisions	Hand made	coarse 5YR 5/2 (Reddish gray).	medium.	lime & basalt.		Deep bowl
26	ASW2008. B-I8-06	Slip: 5YR 6/4 (Light Reddish Brown) Incising: herring-bone incisions	Hand made	5YR 6/6 (Light Reddish Brown).	medium.	lime.		Deep bowl
27	ASW2006. A-C4-04	Slip 5YR 7/6 (Reddish Brown). Paint: 10R 4/8 (Red) on both interior and exterior. Herring bone incisions.	Hand made	5YR 7/4 (pink).	medium.	basalt.		Deep bowl
28	ASW2008. B-J8-33	Slip 5YR 7/3 (Pink). slip: 5YR 6/4 (Light Reddish Brown).	Hand made	5YR 6/4 (Light Reddish brown)	thin hard ware.	lime.		Deep bowl
29	ASW2007. B-I6 -08	Paint: 5YR 7/8 (Reddish Yellow).	Hand made	5YR 7/8 (Reddish Yellow)..	medium.	straw ,lime & basalt.	5YR 4/1 (dark gray). Cracked	Deep bowl
30	ASW2007. B-H5/H6-06	Paint: 5R 5/6 (red) on exterior only.	Hand made	5YR 7/4 (pink).	hard.	straw, lime & basalt.		Deep bowl
31	ASW2007.A-D4/D5-02	Paint: traces 10R 4/4 (weak red).	Hand made	2.5YR 6/6 (light red)	medium.	basalt.		Necked Jar
32	ASW2005. A-D5-TR-02		Hand made	5YR 7/4 (pink)	soft	lime	5YR3/1(very dark gray)	Necked Jar
33	ASW2007. B-H6/H7-01		Hand made	5YR 6/6 (Reddish Yellow)..	medium.	basalt & lime		Necked Jar
34	ASW2006. A-C4-02	Slip 5YR 6/6 (Reddish Yellow). Smoothed.	Hand made	5YR 6/6 (Reddish yellow)	medium.	straw, lime & basalt.	5YR4/1 (dark gray).	High necked Jar
35	ASW2008. B-I8-07		Hand made	5YR 7/4 (pink)	hard.	straw & lime.		High necked Jar
36	ASW 2008 A.D5.20		Hand made	7.5 YR 8/4 (pink)	medium.	straw , lime & basalt		High necked

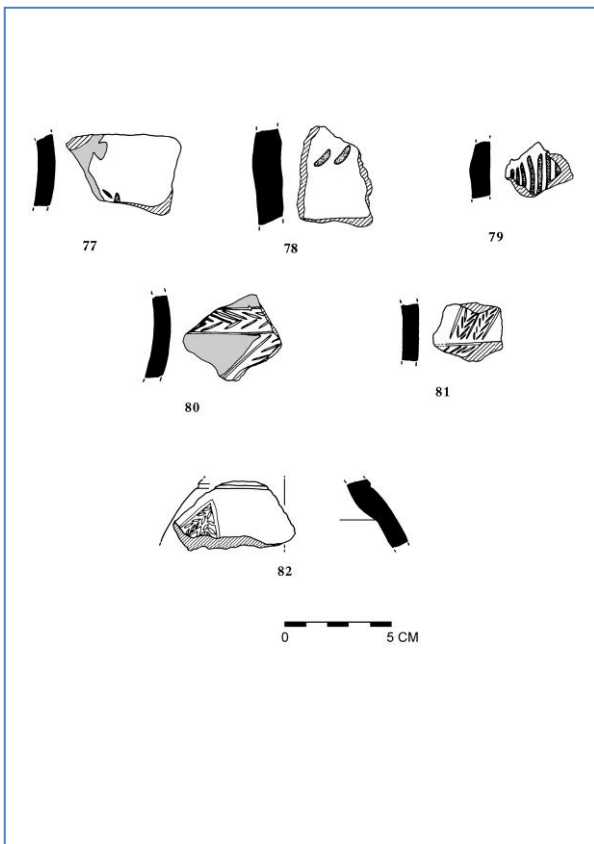
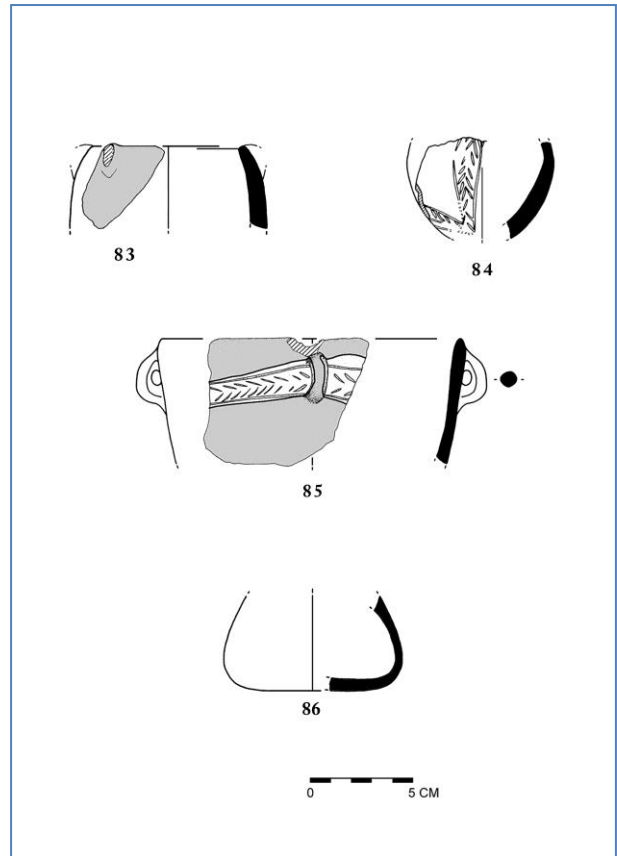
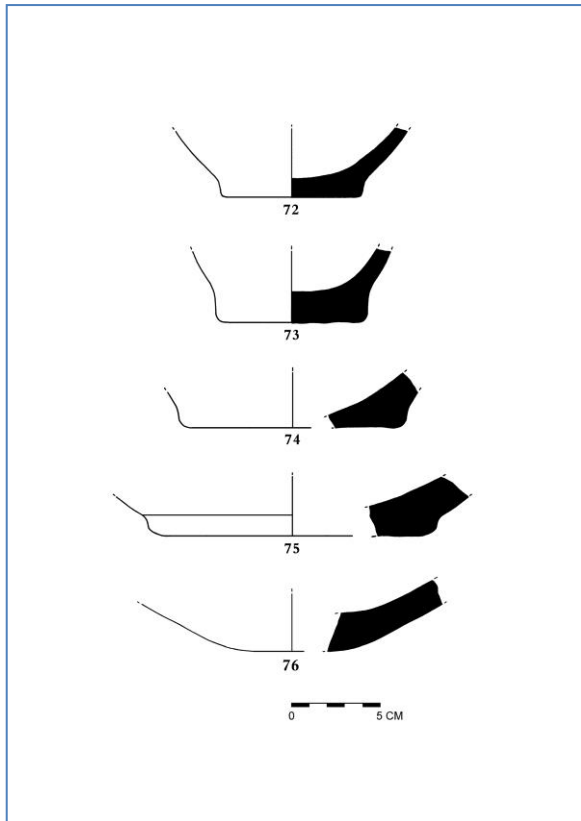
								jar
37	ASW2008. B-H7-07	Paint: traces 2.5YR 4/6 (red).	Hand made	5YR 7/3 (pink)	hard.	basalt & lime		High necked Jar
38	ASW2008. B-K8-05	Paint: traces only 2.5 YR 4/6 (red).	Hand made	5YR 7/4 (pink)	medium.	basalt & lime		Hole-mouth Jar
39	ASW2005. A-F3-01	Paint: 2.5YR 5/8 (Red).	Hand made	2.5YR 6/8 (Light Red)	medium.	lime		High necked Jar
40	ASW2007. A-D4/D5-02	Slip: 5YR 8/3 (Pink). Smoothed.	Hand made	5YR 7/6 (Reddish Yellow)	medium.	basalt.	5YR 6/1 (gray).	High necked Jar
41	ASW2005. A-E3-05		Hand made	5YR 6/6 (Reddish Yellow)	medium.	straw ,lime & basalt.		Body sherd of a Jar.
42	ASW2006. B-H7-04		Hand made	5YR 8/4 (Pink)	medium.	lime & basalt.		Body sherd of a jar
43	ASW2006. B-H7-07		Hand made	5YR 8/4 (Pink)	medium.	lime.	2.5YR5/1(black)	Necked Jar
44	ASW2007. A-D4/D5-02	Slip: 5YR 5/8 (Yellowish Red). Paint:10R 5/8 (Red). smoothed	Hand made	5YR 5/8 (Yellowish Red)	medium.	lime & basalt.		Necked Jar
45	ASW2008. B-G2-03	Paint: 10 YR 5/8 (red).	Hand made	5YR 7/3 (pink)	medium.	straw & lime		Low necked Jar
46	ASW2006. A-C5-00	impressed	Hand made	5YR 7/4 (Pink)	medium.	basalt & lime.	5YR5/1(gray).	Loop handle
47	ASW2005. A-E3-07	Paint: on exterior and interior 10R 5/8(red) Two rows of herring-bone incisions. .	Hand made	5YR 6/8 (Reddish Yellow)	medium.	lime.		Lug handle
48	ASW2006. B-D5-17	Paint: 10R 5/8 (Red). Herring bone incisions.	Hand made	7.5YR 8/4 (Pink)	medium.	basalt & lime.		
49	ASW2008. B-H7/I7-08	Paint: 5YR 5/6 (Yellowish Red) on both exterior and interior. Herring bone incisions.	Hand made	5YR 8/3 (Pink)	medium.	basalt & lime		Body sherd of a jar
50	ASW2006. A-D5-19		Hand made	5YR 8/3 (Pink)	medium.	straw, basalt & lime		Simple Hole-mouth Jar
51	ASW2007. B-H6/H7-01	Slip 5YR 7/8 (Reddish Yellow). Smoothed.	Hand made	5YR 7/8 (Reddish Yellow)	medium.	lime & basalt		Hole-mouth Jar
52	ASW2006. A-Y3-03	Traces of smoke.	Hand made	5YR 7/4 (Pink)	hard.	lime.		Cooking pot /strappe d ledge handle
53	ASW2005. A-F1-00	Traces of smoke	Hand made	5YR 6/3 (Light Reddish Brown)	medium.	straw ,lime & basalt.		Cooking pot /ledge handle
54	ASW2008. B-L4-11		Hand made	coarse 5YR 8/2 (pinkish white)	medium.	straw and lime		Hole-mouth Jar
55	ASW2005. B-J6-04		Hand made	5YR 8/3 (Pink)	medium.	lime & basalt.		Hole-mouth Jar
56	ASW2006. A-D5-TR-02		Hand made	5YR 8/3(pink)	medium.	lime & basalt.		Hole-mouth Jar
57	ASW2007. B-J4-01	Slip 5YR 7/8 (Reddish	Hand made	7.5YR 8/4 (pink).	medium.	straw, lime & basalt.		Hole-mouth Jar

		Yellow).						(Pithos). Knob handles.
58	ASW2008. B- K8-08	10R 5/4 (weak red).	Hand made	5YR 8/2 (Pinkish white)	medium.	lime & basalt.		Hole- mouth Jar
59	ASW2005. A- D5-TR-01		Hand made	5YR 7/3 (Pink)	medium.	basalt		(Bowl) Flat Base
60	ASW2007. A- D4/D5-02	Paint: 10R5/6 (red)	Hand made	7.5YR (Reddish Yellow)	medium.	straw , basalt & lime	5YR4/1 (dark gray)	Very large bowl
61	ASW2005. A- F1-00		Hand made	5YR8/3 (Pink)	soft	lime & cracked		Desk Base (Large bowl)
62	ASW2007. A- D4/D5-04		Hand made	5YR 8/3 (Pink)	medium.	lime & basalt		Flat Base (bowl)
63	ASW2006. A- F5-11	Incising: Herring-bone incisions	Hand made	5YR 8/4 (pink)	hard	basalt		Flat Base (small bowl)
64	ASW2007. A- D5-TR-02		Hand made	2.5YR 6/8 (Light Red)	medium.	lime, basalt		Flat Base (large bowl)
65	ASW2007. B- H5/H6-06		Hand made	7.5YR 8/4 (Pink)	medium.	basalt		Flat Base (bowl)
66	ASW2006. B- H7-04		Hand made	5YR 7/8(Reddish yellow)	medium.	lime		Flat Base (bowl)
67	ASW2005. A- F1-00		Hand made	2.5YR4/6 (red)	medium.	basalt & lime		Flat Base (bowl)
68	ASW2006. A- D5-00		Hand made	7.5YR 8/4(Pink)	soft	basalt	5YR 2.5 5/1(black)	Flat Base
69	ASW2006. B- H7-04		Hand made	7.5YR 7/6 (Reddish Yellow)	hard	lime & basalt		Flat Base (bowl)
70	ASW2006. A- D5 -20		Hand made	5YR 8/4 (Pink)	medium.	straw & lime		Flat Base (bowl)
71	ASW2006. B- H7-04		Hand made	7.5YR 7/4 (pink)	medium.	lime & basalt	5YR 5/1 (gray)	Flat Base
72	ASW2005. A- D5-TR2 -02.		Hand made	5YR 8/4 (pink).	medium.	straw & basalt.		Flat desk base (bowl)
73	ASW2007. A- D4/D5-04		Hand made	7.5YR 7/4 (pink)	medium.	basalt & lime.		Flat desk base (bowl)
74	ASW2008. B- L4-01	Slip 10R 6/8 (Light Red)	Hand made	10R 6/8 (Light Red)..	medium.	lime		Desk Base (bowl)
75	ASW2008. B- K8-08	Slip 7.5YR 7/6 (Reddish Yellow)	Hand made	10R 6/8 (Light Red).	soft.	lime		Desk Base (large bowl).
76	ASW2008. B- 0A-00		Hand made	5YR 8/3 (Pink)	hard	basalt & lime		Rounded base (bowl)
77	ASW2006. A- C4-06	Paint: 10 R 5/8 (Red) on both interior and exterior.	Hand made	5YR 7/6 (Reddish Yellow)	thin hard	lime		body sherd
78	ASW2005. A- D5-TR-02	Incising: herring-bone incisions.	Hand made	5YR 7/6 (Reddish Yellow)	medium.	lime.		body sherd
79	ASW2005. A- D5-TR-01	Incising: herring-bone incisions.	Hand made	5YR 6/8 (Reddish Yellow)	hard.	basalt.		body sherd
80	ASW2008. B- 18-01	Paint: 5YR 6/8 (Reddish Yel- low). Incising: herring-bone	Hand made	7.5YR 8/4 (Pink).	thin hard.	basalt.		body sherd

		incisions.						
81	ASW2005. A-F3-01	Incising: herring-bone incisions.	Hand made	7.5YR 8/6 (Reddish Yellow)	thin soft.	basalt.		body sherd
82	ASW2008. B-K8-04	Herring bone incisions.	Hand made	5YR 8/4 (Pink).	medium.	lime.		Decorated body sherd (small jar).
83	ASW2008. B-K8-08	Slip: Red paint: 7.5YR 5/4 (weak red).	Hand made	5YR 8/4 (pink)	hard	straw, lime & basalt.		Cup. Knob handle.
84	ASW2008. B-I8-06	Slip: 5YR 6/4 (Light Reddish Brown). Herring bone incisions.	Hand made	5YR 7/4 (Pink)	hard	basalt & lime.	7.5 YR 4/1 (dark gray).	Cup/Small bowl
85	ASW2005. A-F3-02	Slip: 5YR 7/6 (reddish yellow). Paint: 10R 5/8 (red) on both interior and exterior . Incising: herring-bone incisions.	Hand made	5YR 7/6 (Reddish Yellow)	medium.	lime		Cup (lug handle)
86	ASW2008. B-0A-02	Smoked.	Hand made	7.5YR 8/2 (pinkish white).	medium.	lime.		Lamp?







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