

KHIRBAT AL MUKHAYYAT ARCHAEOLOGICAL PROJECT: REPORT ON THE 2017 AND 2019 SEASONS

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Introduction

KHirbat Al Mukhayyat (hereafter Mukhayyat), also called the Town of Nebo (Piccirillo and Alliata 1998: 53–83; Saller and Bagatti 1949: 204–217), is located approximately 6km northwest of Mādabā, overlooking the Dead Sea and Jordan Valley to the west. The site is located on a steep limestone promontory that is framed by the Wādī ‘Ifrit to the east and the Wādī Al Mukhayyat to the west. Remains from a wide range of periods have been documented at and around the site, including an Iron Age fortification system, Hellenistic structures, well-preserved Byzantine churches and mosaics, and an array of tombs, caves, cisterns, and various agricultural installations.

Previous archaeological research at Mukhayyat has focused on particular occupation phases at the site (Michel 1998; Mortensen 2002, 2005; Mortensen and Thuesen 2007; Piccirillo 1988, 1989, 1993; Piccirillo and Alliata 1998; Ripamonti 1963; Saller 1941, 1966; Saller and Bagatti 1949; Schneider 1950; Thuesen 2009), and regional surveys of the Nebo region (Glueck 1935; Graham and Harrison 2001; Mortensen 1992, 1996, 2009; Mortensen and Thuesen 1998; Mortensen *et al.* 2013; Stockton 1967; Thuesen 2004) have provided a foundation for exploring the occupation history of the area. Despite these efforts, the lack of systematic excavations at the site has left a gap in our understanding of Mukhayyat’s occupational history and its role within this archaeologically and historically important landscape.

To address this lacuna, and particularly questions related to pilgrimage, subsistence economies, and borderland processes, the

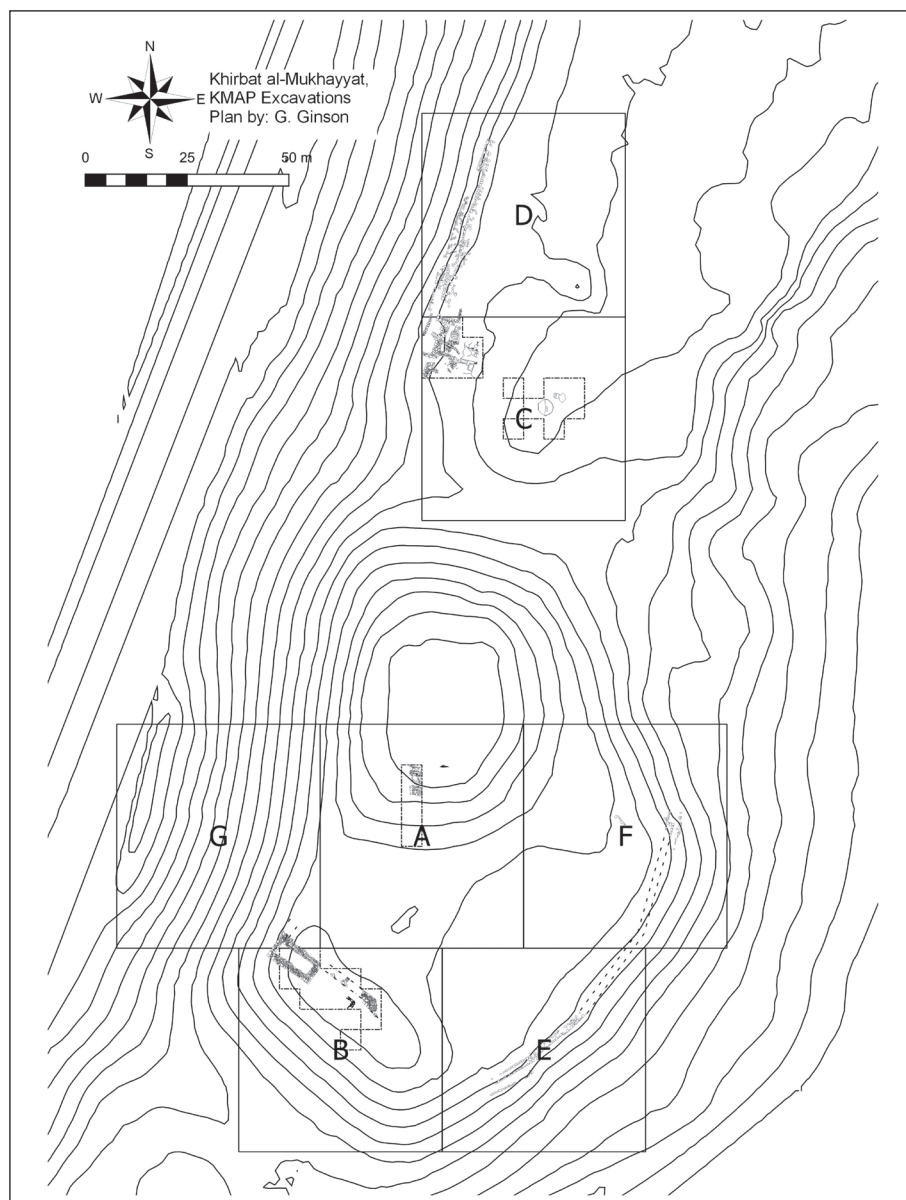
KHirbat Al Mukhayyat Archaeological Project (KMAP) was created.

Previous Excavations (2014 And 2016)

During our inaugural excavation season in the summer of 2014, three fields of excavation (**Fig. 1**) were opened: Field A on the southern slope of the acropolis, Field B on a ridge to the south of the acropolis, and Field C north of the acropolis (Foran *et al.* 2017). In 2016, excavations resumed in both Field B and Field C. Work in Field A exposed a series of retaining walls that were likely built to support the southern extension of the Church of St. George on the summit of the mound. Excavations in Field B succeeded in exposing part of a monumental structure partially built of ashlar blocks, evidence for the Iron Age defensive system, and a collection of over 40 complete Hellenistic cooking pots. Two areas in Field C were opened. In the centre of Field C, a stepped, bedrock-carved chamber was exposed. The feature was filled with ceramic vessels, stone and metal objects, and coins, indicating that it was likely used as storage. Field C West has produced some of the most intriguing remains at the site: a well-preserved Hellenistic stepped bathing installation, several plastered bedrock features associated with a stone-lined channel, and large sections of the Iron Age fortification wall that surrounded the site.

2017 And 2019 Excavation Results

The objectives of the 2017 and 2019 excavation seasons focused on Field B (**Fig. 1**), seeking to determine a full stratigraphic sequence,



1. Plan of the fields of excavation at Mukhayyat (G. Ginson).

and, to the extent possible, a clarification of the nature of activity in the area. The specific objectives of these seasons were thus to: 1) further our understanding of the cooking pot deposits dating to the Hellenistic period; 2) to more broadly expose the occupational contexts dating to the Iron Age; and 3) to clarify the overall stratigraphic sequence of Iron Age and Hellenistic activity in this area of the site¹.

As the 2019 excavations in Field B were

able to reach the earliest occupational levels in the area, located atop bedrock, a field-phasing schema for the stratigraphic sequence was implemented (Danielson and Foran 2021). Through this phasing schema, it is possible to describe the major phases of activity within this field according to their respective chronological horizons (**Table 1**). The following discussion thus uses this phasing scheme to describe the results of the 2017 and 2019 excavation seasons.

1. The 2017 season was conducted between July 4 and 31, with Debra Foran acting as Project Director and Greg Braun as Survey Director. Nisreen Fgaha, Ammel Khaled Rawaneh, and Ahmad al-Ajarmeh served as the representatives for the Department of Antiquities. The 2019 season was conducted between June 18 and July 15, with Debra Foran acting as Project Director,

Greg Braun as Survey Director, Andrew Danielson as Field Director, Věra Doležálková as Ceramic Specialist, and Grant Ginson as GIS Specialist. Kholood Agrabawi and Mansour Ka'abna served as the representatives for the Department of Antiquities. An archaeological field school for students from Wilfrid Laurier University was also run in conjunction with both field seasons.

Table 1: Field B Stratigraphic Phases.

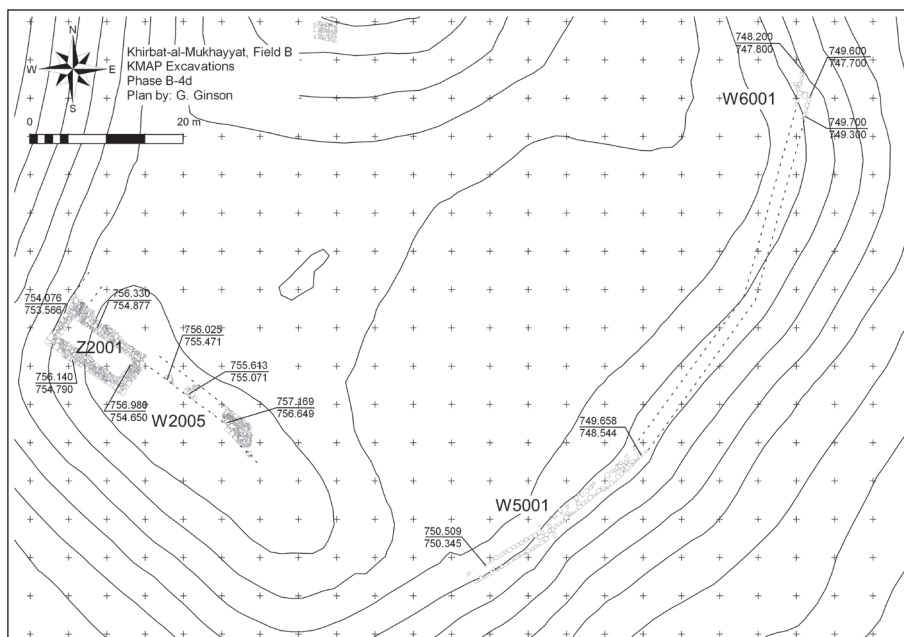
Field B Phases	Major Contexts	Period	Date Range
B-1	Surface debris, wash	Modern	20 th –21 st cent. AD
B-2	Wall W2004	Byzantine (?)	4 th –7 th century AD
B-3a	Glacis, cooking pot deposits	Hellenistic	4 th –1 st cent. BC
B-3b	Tower (Z2001) renovation, renovation to wall W2005	Hellenistic	4 th –1 st cent. BC
B-4a	Extramural surface in B26 (L24=L33)	Iron Age IIC	8 th –6 th cent. BC
B-4b	Extramural surface in B26 (L27=L36)	Iron Age IIC	8 th –6 th cent. BC
B-4c	Extramural structure (W2009 and W2010), and surface (L49) in B26	Iron Age IIB/IIC	8 th cent. BC (?)
B-4d	Fortification Wall (W2005) and Tower (Z2001)	Iron Age II	Undetermined

Phase B-4d (Iron Age II)

The earliest attested activity in Field B consists of the construction of the major fortification system surrounding the area. This system consists of a large inset-offset fortification wall (W2005), measuring approximately 3m at its greatest width and oriented northwest to southeast across the field (**Fig. 2**). This fortification wall joins a large rectangular structure, interpreted as a tower (Z2001), measuring approximately 7x12m. This tower is located on the western edge of the site, where it possessed the greatest visibility of the *wadi* systems extending to the west and the Jordan Valley. The presumed extensions of this fortification system are also visible to the east, in the adjacent Field E (W5001) and Field F (W6001), where the upper courses of the wall, including additional offsets, are visible on the surface. While this wall has been partially

exposed in a number of squares, it is best articulated in square B27 where five courses of both the northern and southern face of the wall were exposed together with an offset of the wall.

Several attempts to expose the foundations and earliest construction activity associated with this fortification system were undertaken. In 2016, a small probe was excavated along the southern face of the tower (Z2001) in square B14, and in 2017, the interior of the structure, squares B3 and B4, were excavated. Similarly, in 2017 a probe was excavated along the southern face of W2005 in B37 in an effort to expose the foundations of the wall. In each of these three areas, a complete understanding of the tower and wall foundations was unable to be realized due to the increasing safety challenges of excavating at a depth of nearly 4m, as well as the time constraints afforded



2. Phase B-4d at KHirbat Al Mukhayyat G. Ginson).

by the excavation season. Despite the lack of broader exposure of the construction phases of the wall, the excavated pottery from the lowest levels of the probes dated exclusively to the Iron II, indicating a likely date for the construction of the wall and the earliest phase of activity in Field B.

Phase B-4c (Iron Age IIB/C)

Phase B-4c is represented by a small structure, the corner of which was excavated in square B26 (**Fig. 3**). The corner of the excavated structure consists of wall W2009, oriented northeast by southwest and consisting of two rows and four courses, and wall W2010, oriented northwest by southeast and consisting of one row and four courses. Both of these walls were constructed of fieldstones in the boulder-and-chink method and were founded on bedrock. Atop the bedrock, within the corner of this structure, was a beaten-earth surface (B26:49) founded directly atop and serving to level the uneven bedrock.

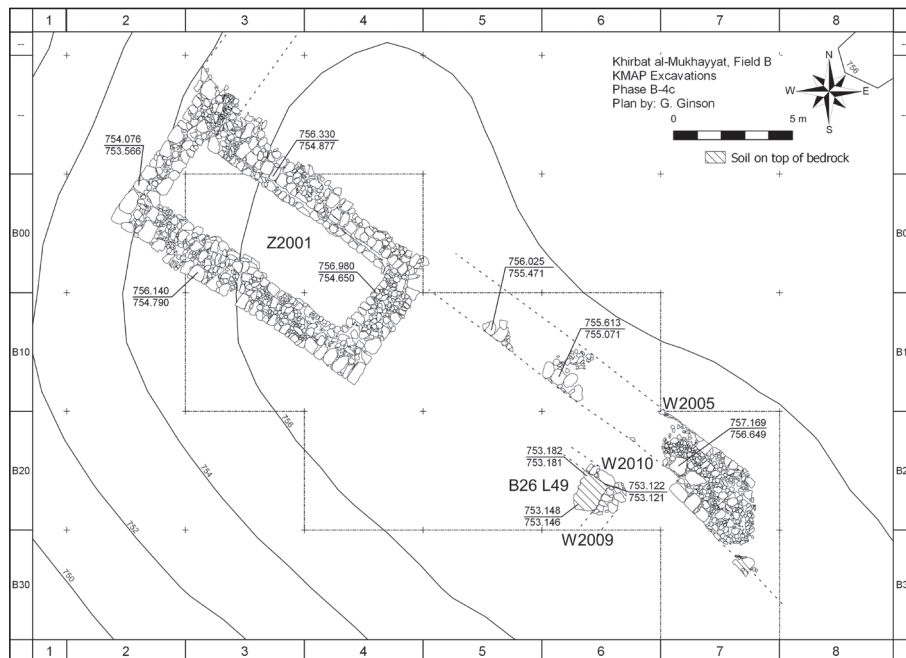
The ashy occupational debris (B26:48) excavated above this surface contained significant amounts of faunal remains and pottery (**Fig. 4, Table 2**). Above the occupational debris was approximately one meter of post-occupation debris (B26:39, 41, 42, 45, 46, 47) that contained substantial amounts of botanical and faunal remains, pottery, charcoal, and boulder tumble that presumably originated

from the upper courses of the walls of the structure (W2009 and W2010). The limited pottery excavated atop the levelled bedrock surface (B26:49) appears to date to the latter portion of the Iron Age, the late Iron IIB or Iron IIC. The pottery found in the post-occupation debris (B26:39, 41, 42, 45, 46, 47) within this structure is of an Iron IIC date.

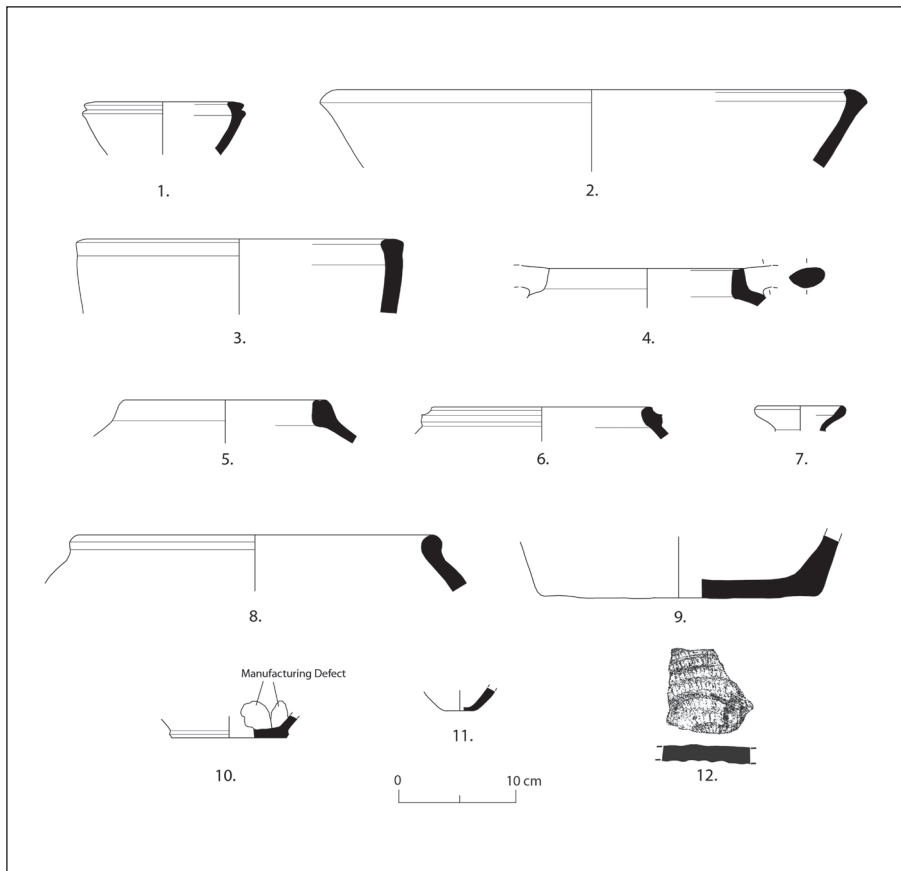
Due to the hazards of the depth of excavation in this square (approximately 4m) and the increasing instability of the northern baulk in B26, the corresponding elevations to the north of wall W2010 were not excavated. This narrow passageway between W2010 and W2005, however, would likely have functioned as an alleyway between this structure and the fortification wall (W2005). While present in only a horizontally restricted area within square B26, the Phase B-4c activity at the site presents a small extramural structure located to the south of the major fortification wall (W2005), outside of the main fortified area of the site. Within Field B, contemporaneous intramural contexts remain to be excavated.

Phase B-4b (Iron Age IIC)

Sealing above the previously described structure within square B26, a second, later, beaten-earth surface was exposed (B26:27=36). This surface covered the entirety of the earlier structure and extended across the square but was heavily disturbed at its northernmost extent



3. Phase B-4c at Khirbat Al Mukhayyat (G. Ginson).



4. Phase B-4c Pottery (see Table 2).

Table 2: Phase B-4c Pottery (see Fig. 4).

No.	Form	Context	Reg. No.	Description		
				Ext.	Int.	Core:
1.	Bowl	B26: L48	KM19.B26.92.7	light red (2.5YR 6/6), black paint (5YR 2.5/1) on upper rim	red slip (10R 5/6)	pink (7.5YR 7/3)
2.	Bowl	B26: L48	KM19.B26.92.4	pinkish white (5YR 8/2)	white (7.5YR 8/1)	gray 7.5YR 6/1)
3.	Bowl	B26: L48	KM19.B26.91.1	red (10R 5/8)	red (10R 5/8)	dark reddish gray (2.5YR 4/1)
4.	Cooking Pot	B26: L48	KM19.B26.92.2	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)
5.	Cooking Pot	B26: L48	KM19.B26.91.2	dark gray (5YR 4/1)	dark gray (5YR 4/1)	weak red (2.5YR 5/2)
6.	Cooking Pot	B26: L48	KM19.B26.92.3	red (10R 5/6)	reddish brown (2.5YR 4/3)	dark reddish gray (2.5YR 4/3)
7.	Jug	B26: L48	KM19.B26.92.6	pinkish gray (7.5YR 7/2)	pinkish white (7.5YR 8/2)	pink (5YR 7/3)
8.	Jar	B26: L48	KM19.B26.92.5	very pale brown (10YR 8/2)	pinkish gray (7.5YR 7/2)	gray (7.5YR 6/1)
9.	Base	B26: L48	KM19.B26.92.8	white (10YR 8/1)	pinkish gray (7.5YR 7/2)	gray (10YR 6/1)
10.	Base	B26: L48	KM19.B26.92.12	pink (7.5YR 7/3)	pink (7.5YR 7/3)	gray (7.5YR 6/1)
11.	Base	B26: L48	KM19.B26.92.10	red slip (2.5YR 5/6)	gray (7.5YR 6/1)	light reddish brown (2.5YR 7/3)
12.	Base	B26: L48	KM19.B26.92.9	light red (2.5YR 6/6)	yellowish red (5YR 5/6)	dark gray (5YR 4/1)

by boulder tumble originating from the collapse of the upper courses of the fortification wall (W2005) to the north (**Fig. 5**).

The material matrix of the surface (B26:27=36), and especially the ashy occupational debris atop it (B26:26=35), consisted of substantial amounts of faunal, charcoal, botanical, and ceramic material culture (**Fig. 6, Table 3**). Within the ashy occupational debris, an iron projectile point (19.039) was excavated (**Fig. 7**). The pottery from this phase dates to the late Iron Age. Phase B-4b has yet to be excavated in additional squares, a challenge in part due to its relative depth at approximately three meters below the surface.

Phase B-4a (Iron Age IIC)

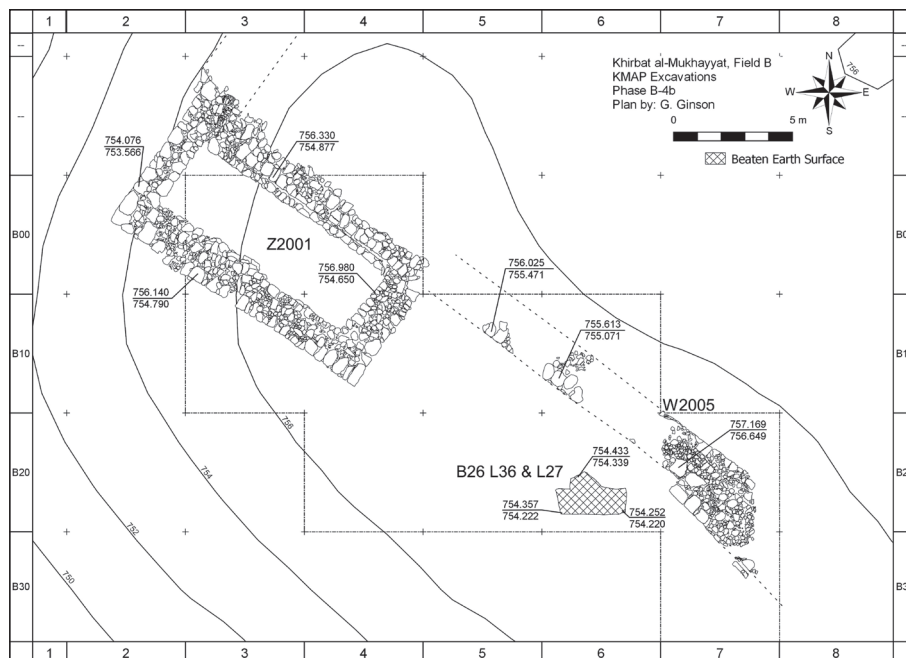
Immediately above the approximately 15cm of occupational debris of the previous phase was another beaten-earth surface (B26:24=33). This surface likewise extended across the entirety of the excavated portion of the square but was heavily disturbed at its northernmost extent by boulder tumble originating from the partial collapse of the upper courses of the fortification wall W2005 (**Fig. 8**). Atop the surface was ashy occupational debris (B26:23=32) containing charcoal, faunal remains, and pottery (**Fig. 9, Table 4**), as well the head of a broken terracotta human figurine (19.022; **Fig. 10**) and the broken fragment of the rear portion of an animal figurine (19.030), perhaps of the horse-

and-rider variety. The pottery from this phase dates to the Iron IIC.

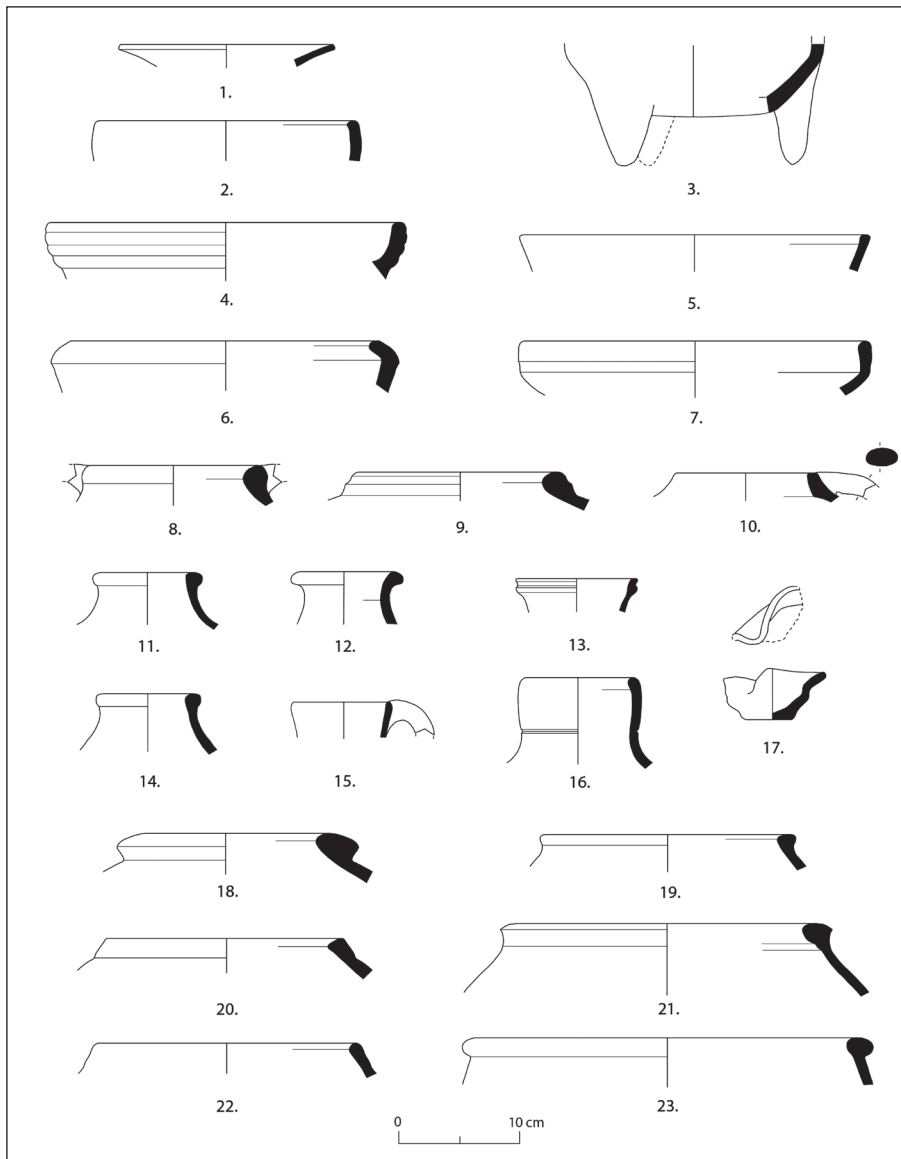
Several additional contexts identified in the 2019 excavations of B46 can be stratigraphically assigned to Phase B-4a. These contexts consisted of poorly preserved surfaces exposed in the northern extent of the square (B46:17, 22, 24) and a possible column base (B46:25). No additional architecture, however, was uncovered. Several additional beaten-earth surfaces exposed in the 2016 and 2017 seasons in square B25 (B25:25) and square B24 (B24:21) relate stratigraphically to this phase, although these were only identified in horizontally restricted probes and remain poorly understood.

Phase B-3b (Hellenistic Period)

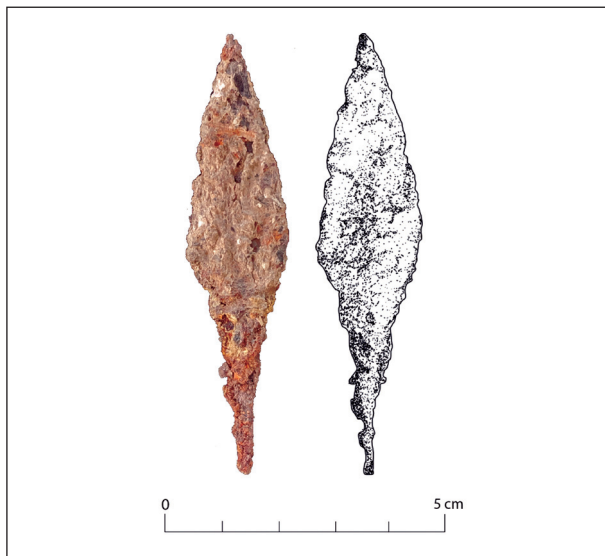
After the late Iron Age, there was a hiatus in activity in Field B until the Hellenistic period. At this time, a program of renovation of the fortifications was undertaken and is visible in the addition of several courses of bossed ashlar in the southeast corner of the earlier Iron Age tower (Z2001) and atop the fortification wall (W2005) (**Fig. 11**). This program of fortification renovation does not appear to have been completed, as it is only sporadically attested, though it is likely that later Byzantine activity at the site dismantled much of this architectural renovation. Phase B-3b is attested only in limited architectural construction activity.



5. Phase B-4b at KHirbat Al Mukhayyat (G. Ginson).



6. Phase B-4b Pottery (see Table 3).



7. Iron projectile point (19.039) from Phase B-4b.

Phase B-3a (Hellenistic Period)

Field Phase B-3a is characterized by the construction of what appears to be a large glacis extending southward from the fortification wall (W2005) and tower (Z2001). This glacis consists of successive layers of cobble and pebble fill sloping downwards toward the south from the fortifications. Buried within this glacis are dozens of Hellenistic cooking pots (**Fig. 12**) that were intentionally placed upright (**Fig. 13**). These pots do not have any cultural material within them, nor are they deposited with any other substantive material culture.

To date, more than 75 of these cooking pots have been excavated to the south of the fortification wall in Field B and may be subdivided into five major form types, all dated

Table 3: Phase B-4b Pottery (see Fig. 6).

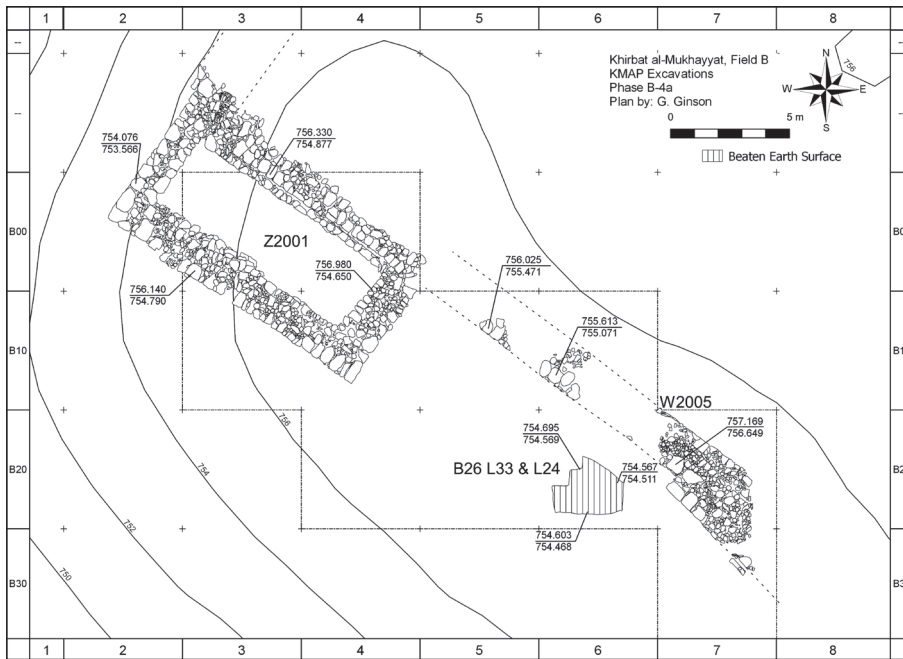
No.	Form	Context	Reg. No.	Description		
				Ext.	Int.	Core:
1.	Bowl	B26: L36	KM19.B26.73.15	light red (10R 6/6)	light red (10R 6/6)	reddish gray (2.5YR 5/1)
2.	Bowl	B26: L35	KM19.B26.69.5	light reddish brown (2.5YR 7/4)	light reddish brown (2.5YR 7/4)	light reddish brown (2.5YR 7/4)
3.	Bowl	B26: L35	KM19.B26.69.16	pinkish white (7.5YR 8/2)	pinkish white (7.5YR 8/2)	gray (7.5YR 5/1)
4.	Bowl	B26: L27	KM17.B26.55.17	pinkish white (7.5YR 8/2)	pinkish white (7.5YR 8/2)	gray (7.5YR 5/1)
5.	Bowl	B26: L27	KM17.B26.55.2	gray (7.5YR 6/1)	gray (7.5YR 6/1)	gray (7.5YR 6/1)
6.	Bowl	B26: L36	KM19.B26.73.6	pinkish gray (7.5YR 7/2)	pinkish gray (7.5YR 7/2)	gray (7.5YR 6/1)
7.	Bowl	B26: L27	KM17.B26.55.7	pinkish white (7.5YR 8/2)	light reddish brown (5YR 6/3)	gray (7.5YR 5/1)
8.	Cooking Pot	B26: L27	KM17.B26.52.3	reddish brown (2.5YR 5/4)	reddish brown (2.5YR 5/4)	reddish brown (2.5YR 5/4)
9.	Cooking Pot	B26: L36	KM19.B26.73.1	reddish brown (2.5YR 5/4)	weak red (2.5YR 5/2)	weak red (2.5YR 5/2)
10.	Cooking Pot	B26: L36	KM19.B26.73.16	light gray (10YR 7/1)	light gray (10YR 7/1)	light gray (10YR 7/1)
11.	Jar	B26: L23	KM17.B26.54.1	light reddish brown (2.5YR 7/3)	light reddish brown (2.5YR 7/3)	reddish gray (2.5YR 5/1)
12.	Jar	B26: L36	KM19.B26.73.7	pinkish gray (7.5YR 7/2)	gray (7.5YR 6/1)	gray (7.5YR 6/1)
13.	Jug	B26: L36	KM19.B26.73.18	pale brown (10YR 8/2)	pink (5YR 7/3)	pink (5YR 7/3)
14.	Jar	B26: L35	KM19.B26.69.10	pink (7.5YR 7/3)	pink (7.5YR 7/3)	gray (7.5YR 6/1)
15.	Jug	B26: L27	KM17.B26.55.18	light red (10R 6/6)	red (10R 5/6)	light red (10R 6/6)
16.	Jug	B26: L35	KM19.B26.69.6	brown (10YR 5/3)	light reddish brown (5YR 6/4)	gray (5YR 5/1)
17.	Lamp	B26: L36	KM19.B26.73.13	gray (7.5YR 5/1)	gray (7.5YR 5/1)	gray (7.5YR 5/1)
18.	Jar	B26: L35	KM19.B26.69.1	light reddish brown (5YR 6/4)	light reddish brown (5YR 6/4)	gray (10YR 5/1)
19.	Krater	B26: L35	KM19.B26.69.7	pale red (10R 7/4)	pale red (10R 7/4)	reddish gray (2.5YR 6/1)
20.	Krater	B26: L35	KM19.B26.69.2	reddish brown (2.5YR 5/4)	reddish brown (2.5YR 5/4)	reddish gray (2.5YR 5/1)
21.	Krater	B26: L27	KM17.B26.55.6	reddish yellow (5YR 6/6)	reddish yellow (5YR 6/6)	dark gray (5YR 4/1)
22.	Krater	B26: L35	KM19.B26.69.9	pale brown (10YR 6/3)	pale brown (10YR 6/3)	gray (10YR 6/1)
23.	Krater	B26: L35	KM19.B26.70.2	pink (7.5YR 7/3)	pink (7.5YR 7/3)	pink (7.5YR 7/3)

to the Hellenistic period (Fig. 14). While there is yet no definitive interpretation of the purpose of these deposits, it is possible that they served some sort of structural purpose within the glaci.

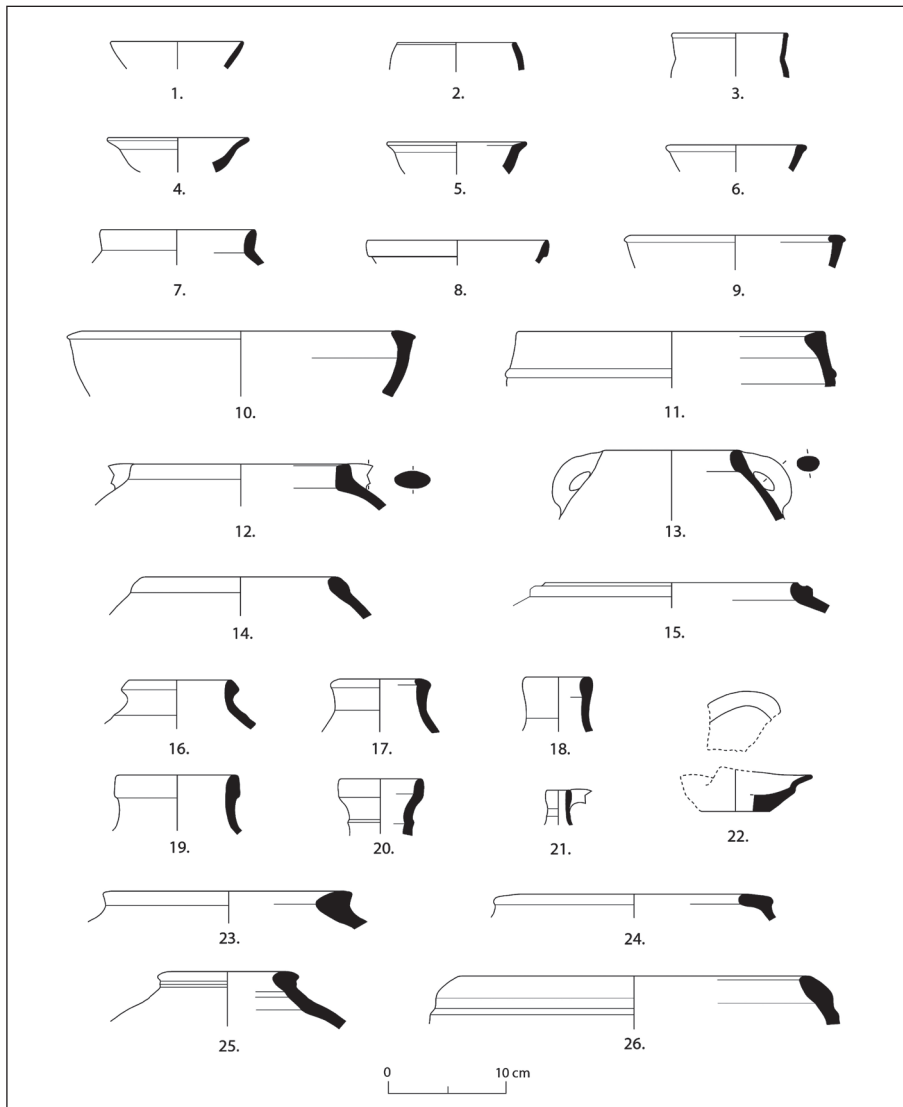
Phase B-2 (Byzantine Period)

Field Phase B-2 was encountered only in a small field wall (W2004) excavated in squares B26 and B37. This wall consisted of one to

four courses of dry-laid fieldstones (Fig. 15). No material culture associated with this wall was excavated, although, on the basis of its stratigraphic relation to the earlier Hellenistic (Phase B-3a) material and the abundance of activity at the site in the Byzantine period (Saller and Bagati 1949), it is suggested that this wall was contemporaneous with that period of activity.



8. Phase B-4a at KHirbat Al Mukhayyat (G. Ginson).



9. Phase B-4a Pottery (see Table 4).

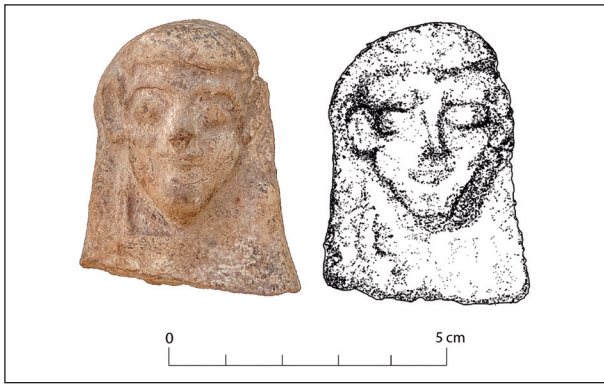
Table 4: Phase B-4a Pottery (see Fig. 9).

No.	Form	Context	Reg. No.	Description		
				Ext.	Int.	Core:
1.	Bowl	B26: L23	KM17.B26.49.16	pink (7.5YR 7/3)	pink (7.5YR 7/3)	pink (7.5YR 7/3)
2.	Bowl	B26: L33	KM17.B26.68.16	pink (5YR 7/4)	pink (5YR 7/4)	pink (5YR 7/3)
3.	Bowl	B26: L32	KM19.B26.63.3	light reddish brown (2.5YR 6/4)	light reddish brown (2.5YR 6/4)	reddish gray (2.5YR 6/1)
4.	Bowl	B26: L24	KM17.B26.53.6	dark gray (5YR 4/1)	dark gray (5YR 4/1)	dark gray (5YR 4/1)
5.	Bowl	B26: L32	KM19.B26.62.1	light red (10R 6/6)	light red (10R 6/6)	pale red (10R 6/3)
6.	Bowl	B26: L33	KM19.B26.67.6	pink (5YR 7/3)	pink (5YR 7/3)	pink (5YR 7/3)
7.	Bowl	B26: L33	KM19.B26.65.4	red slip (2.5YR 5/6)	red slip (2.5YR 5/6)	pinkish gray (7.5YR 7/2)
8.	Bowl	B26: L24	KM17.B26.50.9	black burnished slip (7.5YR 2/0)	black burnished slip (7.5YR 2/0)	black (7.5YR 2/0)
9.	Bowl	B26: L32	KM19.B26.63.7	pale brown (10YR 8/2)	reddish brown (2.5YR 7/4)	reddish gray (2.5YR 5/1)
10.	Bowl	B26: L24	KM17.B26.53.15	light red (2.5YR 6/6)	light red (2.5YR 6/6)	reddish gray (2.5YR 5/1)
11.	Bowl	B26: L33	KM19.B26.68.5	light gray (10YR 7/2)	light gray (10YR 7/2)	gray (10YR 6/1)
12.	Cooking Pot	B26: L23	KM17.B26.49.2	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)
13.	Cooking Pot	B26: L33	KM19.B26.65.1	light reddish brown (2.5YR 6/4)	light reddish brown (2.5YR 6/4)	light reddish brown (2.5YR 6/4)
14.	Cooking Pot	B26: L23	KM17.B26.48.25	reddish brown (2.5YR 5/4)	reddish brown (2.5YR 5/4)	reddish brown (2.5YR 5/4)
15.	Cooking Pot	B26: L23	KM17.B26.49.4	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)	reddish brown (2.5YR 4/4)
16.	Jar	B26: L23	KM17.B26.49.24	gray (5YR 6/1)	gray (5YR 6/1)	gray (5YR 6/1)
17.	Jar	B26: L23	KM17.B26.48.8	light reddish brown (2.5YR 7/3)	light reddish brown (2.5YR 7/3)	reddish gray (2.5YR 5/1)
18.	Jug	B26: L33	KM19.B26.68.10	light gray (10YR 7/2)	light gray (10YR 7/2)	light gray (10YR 7/2)
19.	Jug	B26: L33	KM19.B26.68.6	very pale brown (10YR 8/2)	light gray (10YR 7/2)	light gray (10YR 7/2)
20.	Decanter	B26: L33	KM19.B26.65.3	light reddish brown (2.5YR 7/4)	light reddish brown (2.5YR 7/4)	pink (5YR 7/4)
21.	Juglet	B26: L33	KM19.B26.68.15	light red (10R 6/6)	light red (10R 6/6)	light reddish brown (2.5YR 7/4)
22.	Lamp	B26: L23	KM17.B26.49.1	light red (10R 6/6)	light red (10R 6/6)	dark reddish gray (10R 4/1)
23.	Krater	B26: L33	KM19.B26.65.2	pink (7.5YR 7/3)	pink (7.5YR 7/3)	gray (7.5YR 6/1)
24.	Krater	B26: L33	KM19.B26.67.9	light gray (7.5YR 7/1)	light gray (7.5YR 7/1)	light gray (7.5YR 7/1)
25.	Jar	B26: L33	KM19.B26.68.1	pinkish white (7.5YR 8/2)	light reddish brown (5YR 6/3)	gray (5YR 5/1)
26.	Krater	B26: L33	KM19.B26.67.2	light reddish brown (2.5YR 7/4)	light reddish brown (2.5YR 7/4)	light reddish brown (2.5YR 7/4)

Survey Results

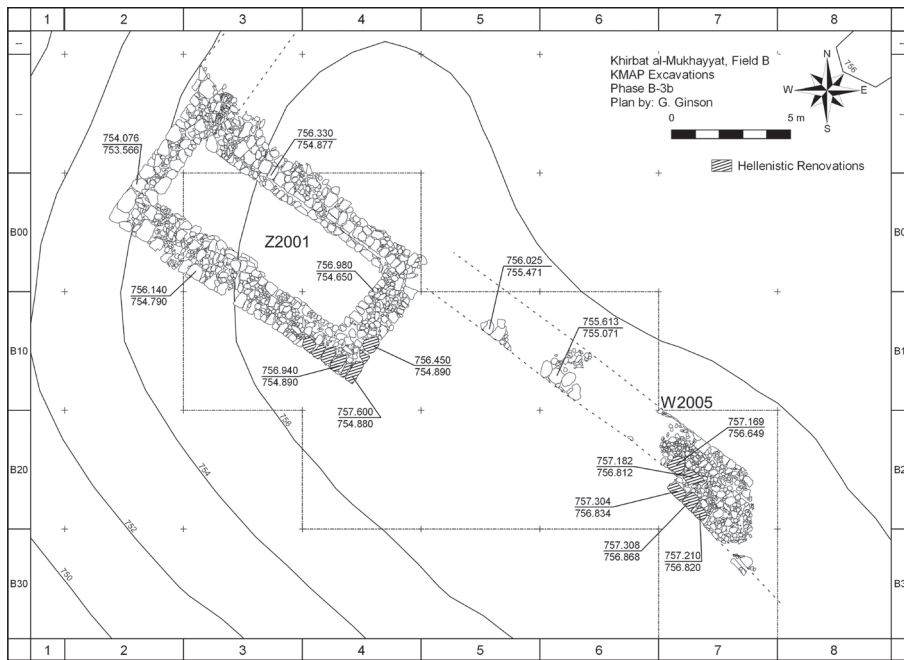
During the 2017 and 2019 seasons, limited surveys were conducted in the environs of KHirbat Al Mukhayyat, primarily in the Wādī Jadīdah to the south, with the following goals: 1)

to identify clay sources within the Mount Nebo region and collect samples for analysis; 2) to relocate and assess three Pottery Neolithic sites identified by Mortensen *et al.* (2013) during their survey of the region in the 1990s; 3)

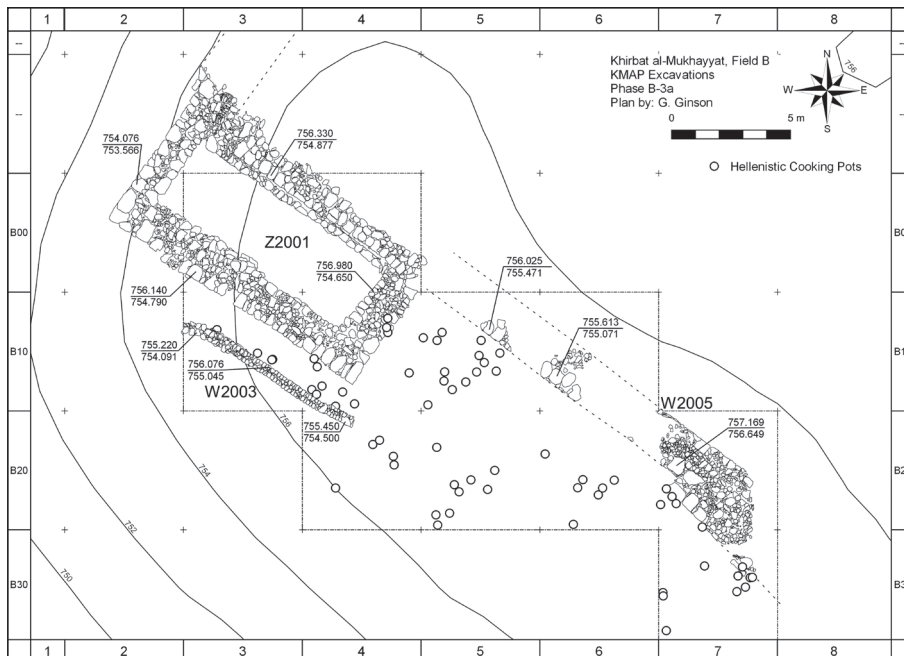


10. Ceramic figurine head (19.022) from Phase B-4a.

to assess several existing Chalcolithic/Early Bronze I sites in the Wādī Jadīdah that were identified by Mortensen *et al.* (2013) in their survey of the region of the 1990s and to collect representative diagnostic artifacts found on the surface; and 4) to document the tower structure at the Rujm Al Mukhayyat. A fifth objective, added as a result of new information acquired during the 2019 field season, focused on the salvage excavation of a cave burial in the Wādī Jadīdah.



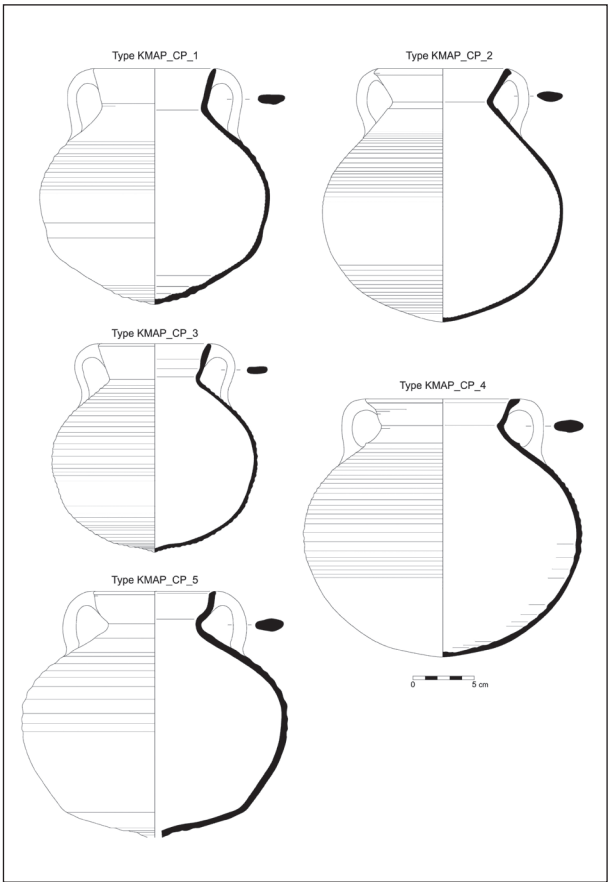
11. Phase B-3b at KHirbat Al Mukhayyat (G. Ginson).



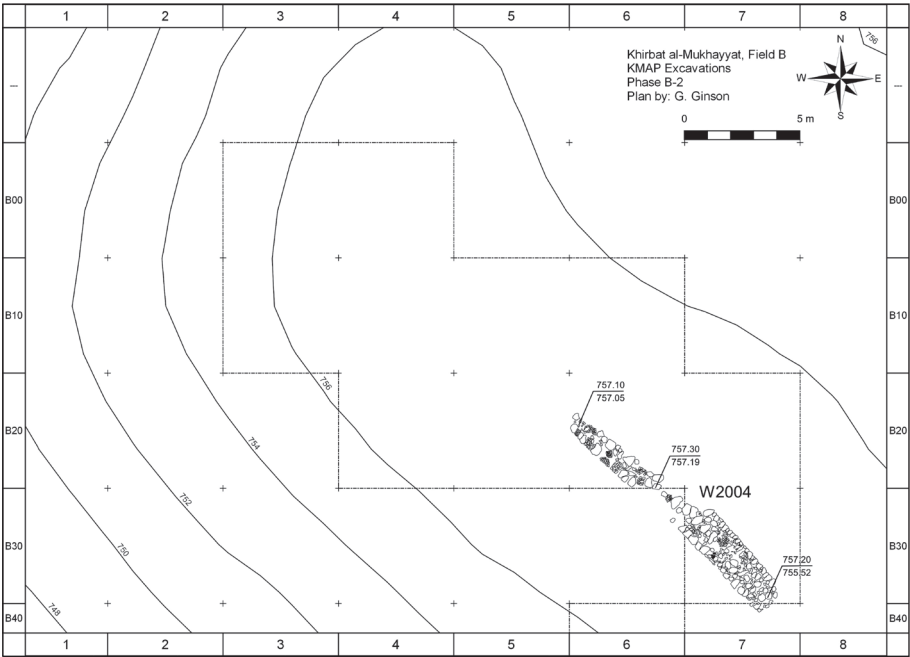
12. Phase B-3a at KHirbat Al Mukhayyat (G. Ginson).



13. Hellenistic cooking pot (19.085) in situ.



14. Hellenistic cooking pot types.



15. Phase B-2 at Khirbat al-Mukhayyat (G. Ginson).

Clay Sourcing

Several locations in the Mount Nebo region were surveyed in order to identify clay deposits for future petrographic analysis. Several areas within Wādī ‘Uyūn Mūsā, Wādī KHanīṣah,

and Wādī Jadīdah were examined. Areas were selected for examination based on their accessibility, the presence of deep exposures, or beds where pooling might occur. A total of five distinct clay sources were identified

(Table 5). Clay Source 1 is a red, silty, alluvial clay found in bedrock channels and depressions in the bed of Wādī Jadīdah. Clay Source 2 is a yellow, inclusion-free clay visible in a cut bank exposure on the western bank of Wādī KHanīṣah . This clay appears to be a primary deposit, was bedded in a layer approximately 1m thick, and was underlying approximately 12m of limestone. Clay Source 3 is a dark yellowish-brown, silty, alluvial clay found in bedrock channels and depressions in the bed of a tributary of Wādī ‘Uyūn Mūsā. Clay Source 4 is a yellow, inclusion-free clay visible in a cut bank exposure on the northern bank of Wādī ‘Uyūn Mūsā. This clay appears to be a primary deposit, bedded in a layer approximately 0.75m thick and underlying approximately 15m of limestone. Clay Source 5 is a mottled yellow/green, inclusion-free clay visible in a cut bank exposure on the northern bank of Wādī ‘Uyūn Mūsā, located 10m away from Clay Source 4. This clay may be a primary clay deposit related to Clay Source 4; it consisted of a thin seam approximately 0.30m thick and was underlying approximately 15m of limestone. The collection and analysis of these clay samples is a component of continued and future research on pottery manufacture at Mukhayyat and in the broader Nebo region.

Assessment of Previously Identified Neolithic Sites

During the 2017 and 2019 season, attempts were made to relocate three Pottery Neolithic sites to assess their potential for possible future analysis.

TN2/MN423

(UTM Coordinates: 754704 East/3520442 North) At the time of its initial discovery by

the Danish survey (Mortensen *et al.* 2013), site MN423 (labelled as TN2 within the KMAP survey system) consisted of a low plateau or possibly a tell south of Wādī KHanīṣah . Visibility of the site was poor due to the presence of scrub vegetation; however, 69 artifacts consisting primarily of pottery and lithics were recovered in a 50×50m area that suggested a Yarmoukian/Jericho IX occupation (Mortensen *et al.* 2013: 121).

The area of this site was examined on July 30–31, 2017, by the KMAP team, with the goal of assessing it for possible future analysis. Several dozen artifacts were visible on the surface, including lithics and Neolithic ceramics. These artifacts were concentrated in a 50×50m area east of a concrete house and tent. Artifacts were also found eroding out of a cut on the south side of the paved road immediately to the north. Conversations with the landowner revealed that the entire site area had been bulldozed two years prior to the arrival of the KMAP team. Soil and stones from the area were deposited in a small *wadi* to the east of the plateau. Examination of these soils resulted in the collection of 19 Neolithic pottery sherds, 27 lithic artifacts, and a stone object with two pecked indentations. Three Roman sherds were also collected. On the basis of these observations, it appears that this site has been severely, if not completely, destroyed by agricultural activities.

TN3/MN329

(UTM Coordinates: 756467 East/3116315 North) At the time of its initial discovery by the Danish survey (Mortensen *et al.* 2013), site MN329 (labelled as TN3 within the KMAP survey system) consisted of a low tell north of Wādī KHanīṣah . A surface scatter of artifacts covered 30×40m; 191 artifacts were recovered, primarily pottery and lithics. A gray ashy layer was visible on the surface. The finds suggested a Yarmoukian/Jericho IX occupation. In their 2008 visit, Mortensen *et al.* found that an orchard occupied the area of MN329, which was enclosed by a low stone wall and cacti (Mortensen *et al.* 2013: 120–21).

On July 18–19, 2017, the site area was examined by the KMAP team with the goal of relocation for possible future analysis. It became apparent, however, that the area

Table 5: Clay Source Locations.

Location	UTM Coordinates*		Elevation
	North	East	
Clay Source 1	3515008	759389	509m ASL
Clay Source 2	3516007	756920	317m ASL
Clay Source 3	3520324	757682	171m ASL
Clay Source 4	3518894	758832	366m ASL
Clay Source 5	3518892	758834	365m ASL
* Datum: WGS84 UTM 36N; accuracy ±3m			

surrounding the site had been bulldozed and leveled during agricultural terracing activities. Conversations with the landowner confirmed that these activities had occurred during the previous year and were ongoing. As part of these activities, soil had been removed from the site and deposited in the adjacent *wadi*; the remaining soil was spread over the site area to a depth of 1–2m. Several non-diagnostic lithic debitage fragments were visible on the surface. Remnants of the original soil surface were visible in a narrow, discontinuous area approximately 1x20m immediately adjacent to the stone wall and paved road. Three Pottery Neolithic sherds were observed in this area. These observations indicate that MN329 has been destroyed; however, there remains a possibility that some portion of the site remains buried under 1–2m of soil.

MN526

(UTM Coordinates: 758930 East/3529280 North) Site MN526 was initially discovered by the Danish survey on what may have been a low *tall* north of ‘Uyūn Mūsā (Mortensen *et al.* 2013: 121). From MN526, 38 pottery and lithic artifacts were initially collected, and, similar to the above sites, the finds suggested a Yarmoukian/Jericho IX occupation. This site was reported as partially or completely destroyed by ploughing and agricultural activities and was located within an orchard (Mortensen *et al.* 2013: 121). Attempts were made to relocate this site on July 20, 2017. At this time, the landowner refused to give permission to enter his property, and we were therefore unable to access the site area.

Site Assessments

During the 2017 and 2019 seasons, assessments were made at previously identified sites for their potential for future analysis. While conducting these assessments, the KMAP survey team identified and recorded additional sites.

TN1 (*Dhib Yaqub*)

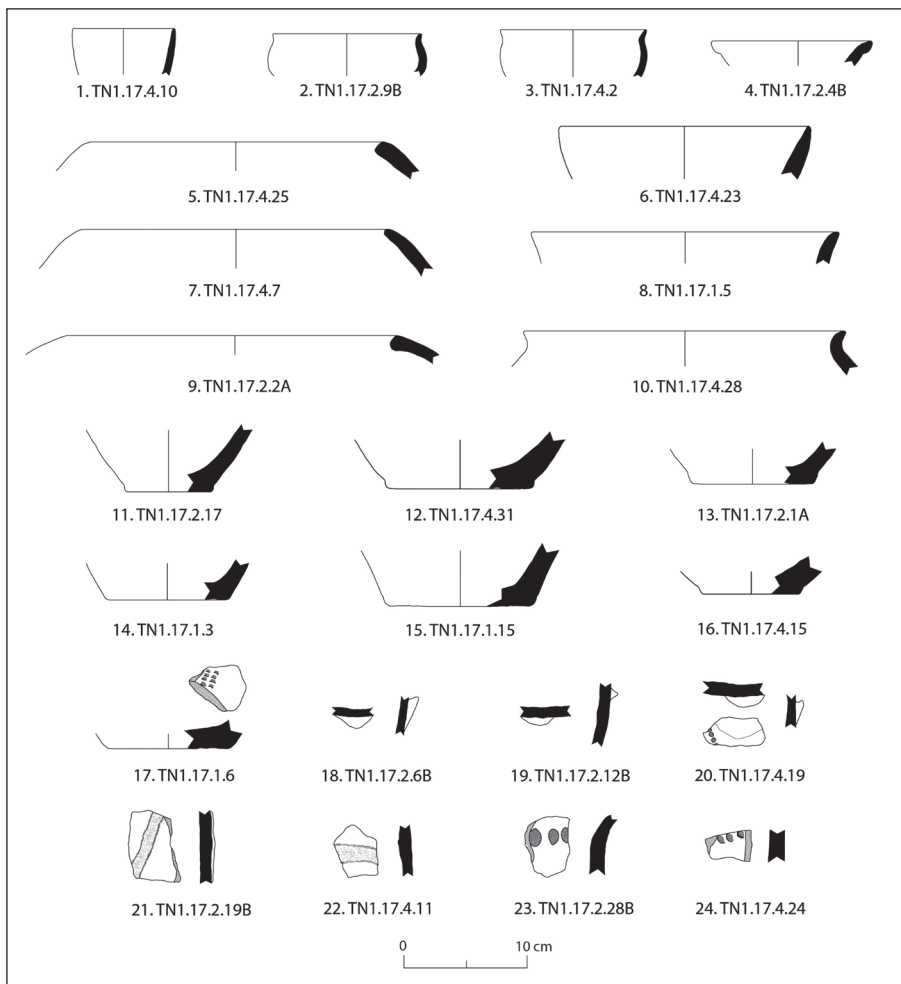
(UTM Coordinates: 758749 East/3515370 North) During the 2017 season Site TN1 was identified. The site consists of an artifact scatter containing an estimated 1,500 artifacts

on a terrace above the western bank of the Wādī KHanīṣah Jadīdah. This terrace slopes severely down to the north and east, and rises gradually to the south for 120m, whereupon it rises dramatically as it meets a short vertical rock face that forms a plateau overlooking the terrace. Several Bedouin graves, marked by stones, are located on the eastern edge of the site. An elevated area, approximately 30x15m in size, is located in the eastern half of the site and contains several large, worked stones and numerous unworked large cobbles; it is possible that these stones represent a kind of architectural feature. There is a collapsed dolmen 30m to the southeast.

The site is located in an active agricultural field, most recently planted with wheat. The landowner has indicated that this area has only recently been cleared and cultivated, and examination of uncleared areas around the site suggests that, prior to these activities, the surface visibility was very low, such that it could not be identified during the Mortensen *et al.* survey (2013; 2019). The artifact scatter measures 86x81m, encompassing the majority of the terrace. The area it covers is mainly level, sloping slightly down to the *wadi* to the north and northwest, and sloping moderately immediately to the east of the mound. A total of 221 culturally or temporally diagnostic artifacts were collected from the surface. The 105 pottery sherds recovered include a cornet (Fig. 16.1), bowls (Fig. 16.2–3, 6), a possible bottle (Fig. 16.4), jars (Fig. 16.5, 7–10), bases (Fig. 16.11–17), ledge handles (Fig. 16.18–20), and body sherds (Fig. 16.21–24). Based on a preliminary analysis of these artifacts, this site dates primarily to the Chalcolithic/Early Bronze I periods and may therefore be contemporary with site TN7 (Conder’s Circle), located 600m to the southeast. A preliminary examination of the lithics suggests that there may be a Paleolithic component to this site, although analysis is ongoing.

TN5

(UTM Coordinates: 758579 East/3515637 North) During the 2019 season, site TN5 was discovered. This site is located on a terrace to the north of ‘Ayn Jadīdah, approximately 850m northwest of Conder’s Circle. The northern and



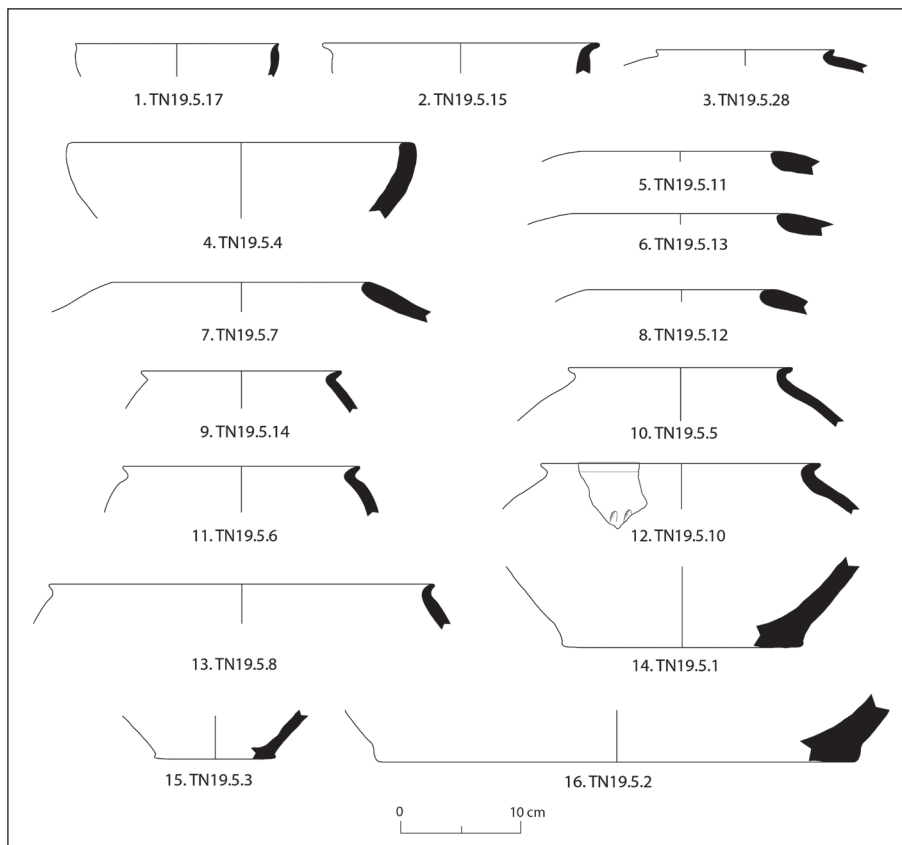
16. Pottery collected from TN1.

southern boundaries of the site are delineated by a paved road and dirt track, respectively. While no additional cultural materials were found north of the road, artifacts were found eroding out of a cut along the dirt track to the south, indicating that the southern portion of the site has been impacted by ongoing levelling of the track and ongoing agricultural activities. This site was previously identified during the surveys of Mortensen *et al.*; however, the results of this work have not yet to be published, and the site has not been entered into the MEGA-Jordan database (Thuesen 2019, personal communication). The site consisted of a diffuse artifact scatter measuring 40x150m, within which was an area of higher artifact concentration measuring 30x50m. Thirty-eight diagnostic pottery sherds and chipped stone tools were recovered from the surface of the site and retained. The pottery includes bowls (Fig. 17.1, 4), jars (Fig. 17.2-3, 5-13), and bases (Fig. 17.14-16). Preliminary examination

of these materials indicates a late Chalcolithic/Early Bronze I occupation. Further analysis of the material culture is ongoing.

TN6 (Rujm Al Mukhayyat)

(UTM Coordinates: 760377 East/3515373 North) Known locally as Rujm Fadīl (رجم فضيل), the Rujm Al Mukhayyat is located on a hill approximately 600m to the southwest of KHirbat Al Mukhayyat, separated from the site by the Wādī KHanīṣat 'Ifrit. The site was systematically excavated in the 1960s by the University of Caracas, but the results of the excavation were not published, and the location of the excavated material culture is unknown. A preliminary attempt to map the site was conducted by the Studium Biblicum Franciscanum, but no pottery or material culture was collected (Benedettucci and Sabelli 1998). In 2019, the KHirbat Al Mukhayyat Archaeological Project survey team investigated the Rujm to create an accurate plan of the site,



17. Pottery collected from TN5.

to aid in its identification, and to conduct a surface survey of pottery to clarify the date of the structure.

During the survey, overhead images were taken using a telescopic stadia rod and a mounted Canon PowerShot 100 camera from which to generate a georeferenced photogrammetric model using RealityCapture. Using this program, a georeferenced plan was extracted from an orthophoto that was integrated with a scaled field drawing (Fig. 18).

The structure measures approximately 20x20.5m and consists of a series of casemate rooms surrounding a central courtyard area. No entrance to the structure is visible from the surface. In some areas, the extant walls survive to almost 2m in height and consist of five to six courses. Formal similarities to this structure can be found at Rujm Al Hīnū East in the ‘Ammān region (McGovern 1983: 107; Clark 1983) and at Tall As Sa‘īdiyyah Stratum III (Tubb and Dorrell 1994: fig. 2), as noted by Benedettucci and Sabelli (1998: 130–131). On the basis of these structural parallels, a late Iron Age date or perhaps early Persian period is appropriate. During the survey, very few pottery sherds

were encountered. In total, thirty sherds were collected for macroanalysis, of which nine were diagnostic. Following analysis, the sherds were returned to the site. While the pottery assemblage was limited, the few exemplars analyzed appear to support a late Iron II/Persian period date (Fig. 19).

TN7 (Conder’s Circle; MNI)

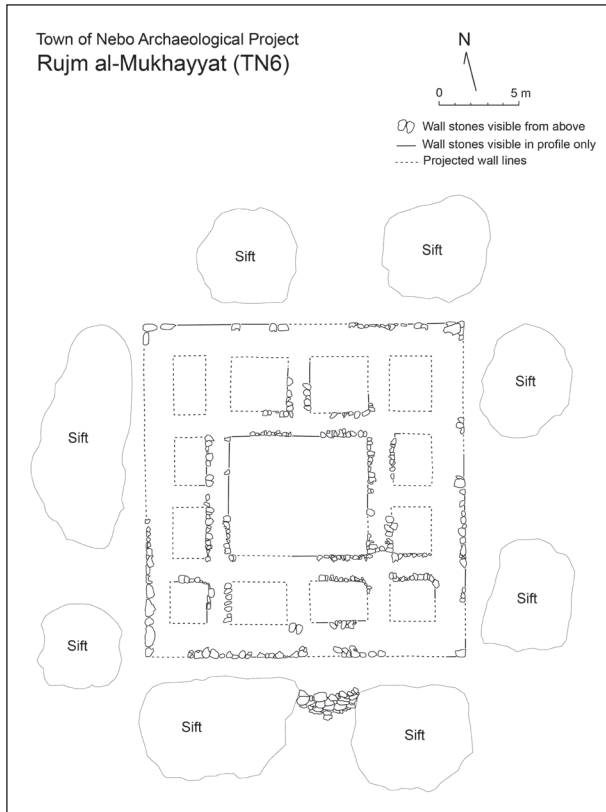
(UTM Coordinates: 759169 East/3515003 North) TN7, better known as Conder’s Circle, is located on a terrace overlooking ‘Ayn Jadīdah. The site was partially excavated in the course of the Danish survey (Thuesen 2009; Mortensen *et al.* 2019: 88–90, 94–102) and was reassessed by the KMAP team in 2017 and 2019. Thirty-one diagnostic pottery sherds and chipped stone tools were recovered from the surface of the site and retained. The ceramics include bowls (Fig. 20.1,4), jars (Fig. 20.2-3,5-8,10-13), a krater (Fig. 20.9), bases (Fig. 20.14-15), and ledge handles (Fig. 20.16-18). Preliminary examination of these materials supports the late Chalcolithic/Early Bronze I occupation identified by Thuesen (2009) and Mortensen *et al.* (2019: 88–90).

During the examination of the site in 2017, it became apparent that several tombs along the southeastern portion of the site had been illicitly excavated, and one tomb in particular had been recently looted, as there was no erosion in the

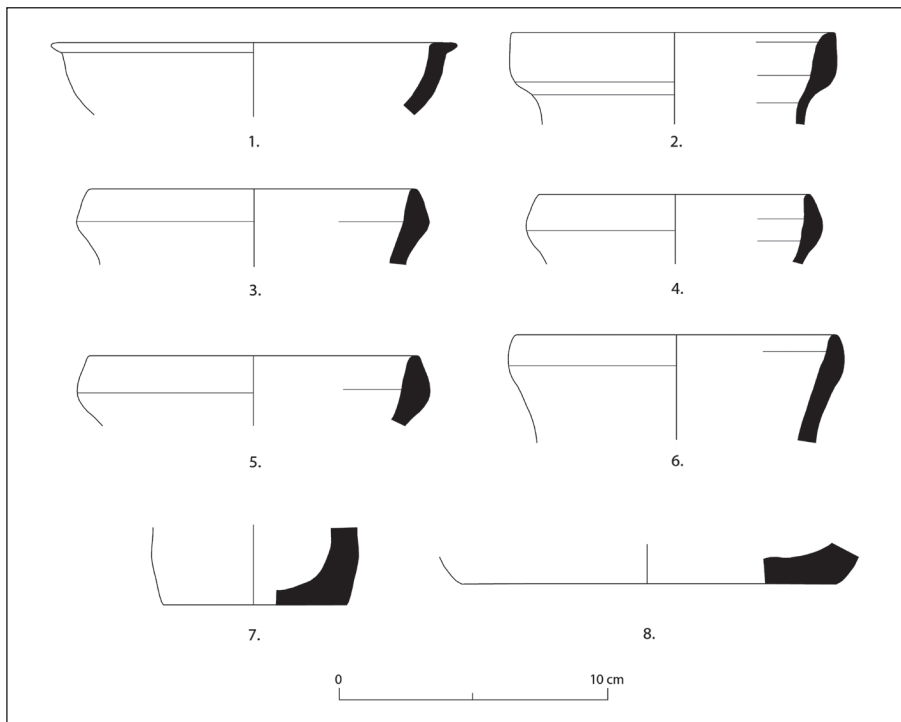
adjacent spill pile. This tomb appears to have been a natural cave that had been enlarged, with an opening measuring approximately 1m in diameter, below which was a chamber approximately 3m in diameter. Four short lobes or niches extended radially from the central chamber. Both the chamber and the niches were partially filled with rock and soil, preventing any detailed measurements. Human remains were found scattered about the cave interior, with no other artifacts visible on the surface. A subsequent visit to the site in 2019 revealed that an additional four cave burials had been looted after 2017, and human remains were found in or around these tombs. In one case, looters excavated a cave passage that extended 10m into the hillside, with the volume of the spill pile outside the cave entrance suggesting that it had been a well-planned, organized, multi-day undertaking.

Salvage Excavations at TN4 (Mughur Abū GHanīmah)

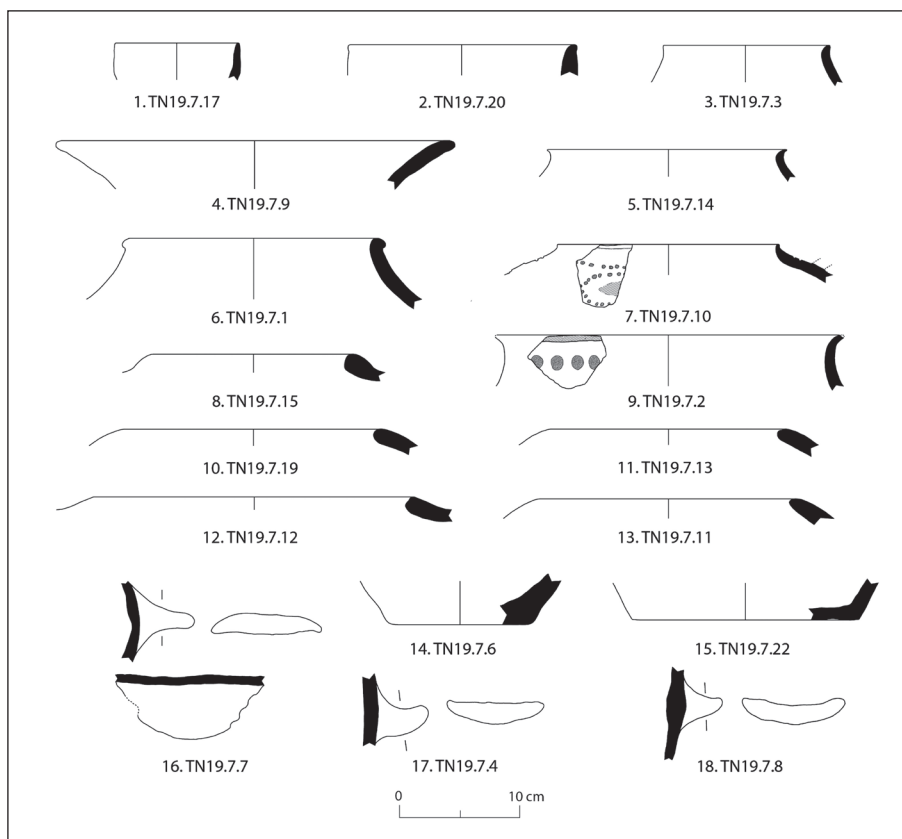
In June of 2019, in consultation with the local landowner, Mr. Ali Mohammed Abu-Ghanem, and Mr. Bassem Mahamid, Director of the Madaba Archaeological Directorate, it was determined that salvage excavations needed to be conducted on a cave tomb in the Wādī Jadīdah that was currently being looted. Initial



18. Plan of the Rujm Al Mukhayyat (G. Ginson).



19. Pottery collected from Rujm Al Mukhayyat (TN6).



20. Pottery collected from Conder's Circle (TN7).

inspection of the cave tomb by the KMAP survey team revealed the remains of several individuals, with some deposits remaining intact.

The cave itself is located on the south side of 'Ayn Jadīdah, approximately 4m above and 15m south of the *wadi* bed. It consisted of a broad opening measuring 5m wide and approximately 2m high, leading 2.5m deep into an almost vertical face of limestone cobble conglomerate bedrock (**Fig. 21**). Above the cave opening there is a slight overhang in the rock face. In the central portion of the cave, human remains were visible scattered about the surface. The cave extended east approximately 3m through a narrow passage into bedrock and west approximately 5m to through a broad passage. Within the side chambers, vertical space ranged between 0.3–0.5m, with little disturbance of their soil deposits that reached nearly to the roof of the cave.

The objectives of the salvage excavation of TN4 were twofold: 1) to recover any human remains and extant artifacts from intact and/or disturbed deposits in TN4; and 2) to document the depositional sequence of the cave. It was

apparent that the limestone cobble conglomerate that formed the walls and ceiling of the cave was inherently unstable, with a risk of large cobbles falling into the cave. For reasons of safety, excavation was limited to the looted areas immediately adjacent to the cave mouth.

In the vicinity of TN4, numerous natural and artificially enlarged caves were apparent on both sides of the Wādī Jadīdah. Of particular note is TN8, a previously unknown burial cave immediately across the *wadi* from TN4 (Mughur Abū GHanīmah). The opening to TN8 was almost completely filled with sediment, but inside were the human skeletal remains of several individuals, with no apparent evidence of disturbance.

Recovered Materials

A preliminary examination of the human skeletal remains suggests that the recovered material represents a minimum of four individuals. An examination of the teeth and jaw fragments indicates the presence of at least one child under the age of 10 years. Other elements, particularly vertebrae, show pronounced degeneration and lipping of articular

surfaces, suggesting a relatively advanced age. No evidence for sexual differentiation was identified. At this preliminary stage, it is reasonable to assume that the recovered skeletal remains comprise at least four individuals and include both children and adults. Fifty-four objects related to personal adornment were recovered during excavations, including several glass and amber beads. A bronze chain and clasp fragment that appear to be Byzantine in date were also recovered (Fig. 22).

Summary

Within the excavation area, intact cultural deposits approximately 30cm deep were excavated. Activities were restricted to portions of the cave where collapse and/or rockfall seemed unlikely. The areas west of the baulk were abandoned after a partial ceiling collapse was triggered by a second looting attempt.

The stratigraphy of these deposits suggests



21. Entrance of Mughur Abū GHanīmah (cave TN4) before excavation.



22. Finds from cave TN4.

that sediments were transported during flooding of the plateau above and came into the cave through subterranean fissures. Pottery sherds found in these sediments show strong evidence of hydroturbation and were carried into the cave with these sediments. Human remains comprising at least four individuals were recovered, including children and adults. Additional human skeletal material is still present in inaccessible portions of the cave. The paucity of smaller bones such as tarsals, carpals, phalanges, *etc.*, as well as an absence of any articulated elements, suggests that these deposits represent a series of secondary burials. As the cave gradually filled with sediments, these skeletal remains were buried.

Conclusions

The 2017 and 2019 seasons of excavation and survey for the KHirbat Al Mukhayyat Archaeological Project were successful in attaining a full stratigraphic sequence for Field B at KHirbat Al Mukhayyat. The Hellenistic phase is characterized by renovations to the earlier Iron Age defensive architecture. During the Iron II period, the inhabitants of Mukhayyat first built a series of defensive structures that dominate this raised area to the south of the acropolis. At the end of the Iron IIB, the settlement began to grow beyond the confines of the defensive wall and a small structure was built against the exterior façade of the wall. During the Iron IIC, this structure fell out of use, yet the inhabitants continued to use this extramural area but perhaps not for permanent habitation.

The survey work conducted during the 2017 and 2019 seasons has also allowed us to investigate the nature of human occupation in the larger region throughout antiquity. The valleys to the south and west were used extensively in the Late Chalcolithic and Early Bronze I periods not only for habitation but also for burial and ritual activity. During the late Iron IIB and Iron IIC, the settlement at Mukhayyat had extended beyond the defensive walls at the site. This expanded city, however, appears to pre-date the defensive structure (Rujm Al Mukhayyat) on the neighboring hill to the east. In the Byzantine period, the monastic institutions of the region may have used some of the natural caves of the area to bury their dead.

Ongoing excavations at KHirbat Al Mukhayyat will hopefully focus on continuing and expanding excavations in Field B in order to clarify the extent and nature of the Iron Age and Hellenistic defensive system in this area of the site and their relationship to other, contemporary remains elsewhere on the site. Future excavation and survey seasons will be devoted to elucidating the relationship between KHirbat Al Mukhayyat and its environs throughout antiquity.

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