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Rescue Excavations at the Early Bronze Age Site of Qiryat Ata—Area O

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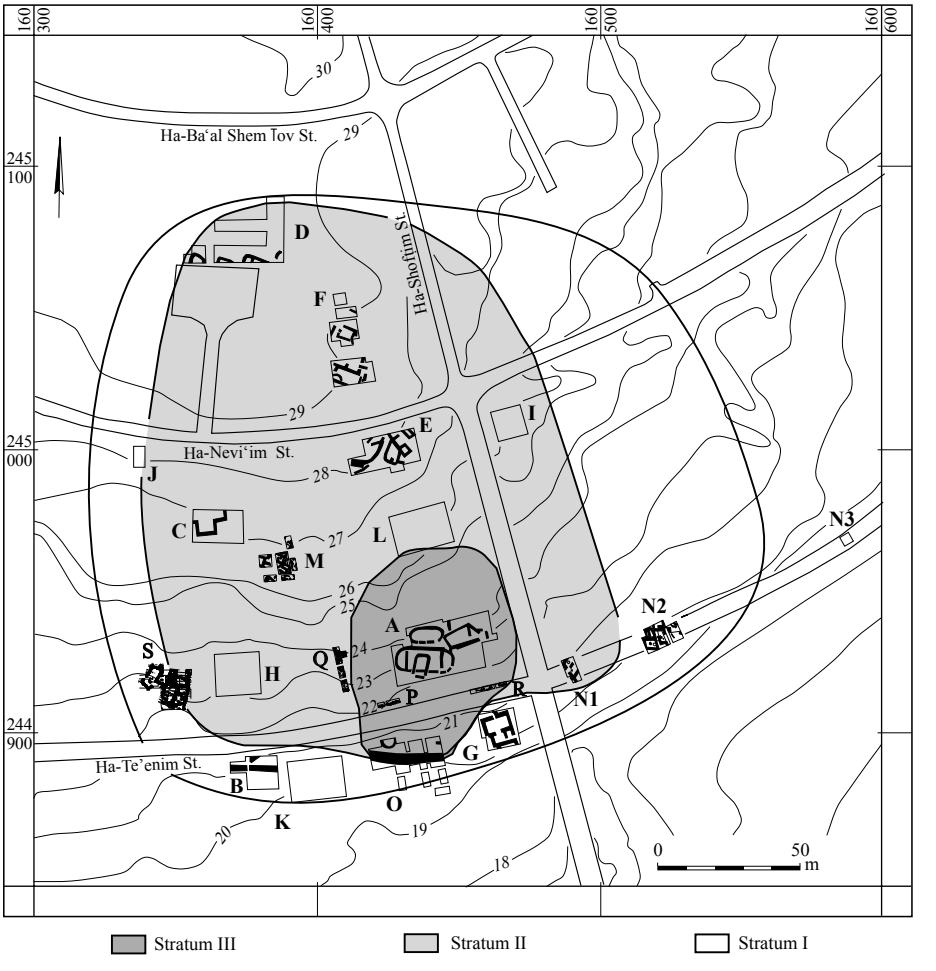
Numerous archaeological investigations have been undertaken between 1990 and 2006 at the Early Bronze Age site of Qiryat Ata, situated in the coastal plain of the lower western Galilee, at the southeastern fringes of the Zevulun Valley (cf. Golani 2003:1–7, Fig. 1.1). They all concern rescue excavations that preceded housing development within the area of the ancient settlement (cf. Golani 2003; Faust and Golani 2008, for the last comprehensive review of the site and its excavations). All the areas excavated throughout these years have been labeled in sequential order (Plan 1). The following report presents the results from



Plan 1. Location of excavation areas within the Early Bronze Age site of Qiryat Ata.

Area O (map ref. NIG 21043–53/74489–93, OIG 16043–53/24489–93).[1]

The cumulative knowledge of fifteen years of work at Qiryat Ata has resulted in recognition that the stratigraphic build-up of this ancient site can be divided into three major strata, spanning the time period at the turn of the fourth to the third millennium BCE. Strata III and II are assigned to Early Bronze Age IB, while Stratum I is dated to Early Bronze Age II. A possibly earlier occupation during the Pottery Neolithic period has been noted as well (Fantalkin 2000). Within the framework of these general strata, several stratigraphic or architectural subphases have been identified in most of the excavated areas. As the various excavation areas were not physically connected, their correlation and dating is based on an analysis of architecture and ceramics. Table 1 presents the stratigraphic correlation between the three general site strata and the phases of the separate areas excavated to date.[2]

STRATIGRAPHY AND ARCHITECTURE

The present excavation is located in the southern, peripheral zone of the site, immediately south of Ha-Te'enim Street, and is situated between Areas G and K (see Plan 1). The archaeological remains were found under a thick layer of modern building debris. Removal of this material by mechanical means revealed a dark brown layer, the original topsoil covering the site, while numerous modern intrusions were also identified in the course of subsequent manual excavations. In the initial stage of excavation, six 4 × 2 m probes were dug in the northeastern portion of the building lot. The remains uncovered at that time were disjointed and not fully understood and for this reason, a further excavation of one month was undertaken to clarify their character. An area of approximately 220 sq m was excavated in Area O (Fig. 1), revealing three primary settlement episodes; Phases 3 and 2 are dated to EB IB and consist of two buildings and associated surfaces, while Phase 1 is dated to EB II and consists of a large fortification wall along with a few other walls and associated surfaces (Plan 2). These three phases correlate with the three main occupation strata (III–I) that have been identified at the site (see Table 1).

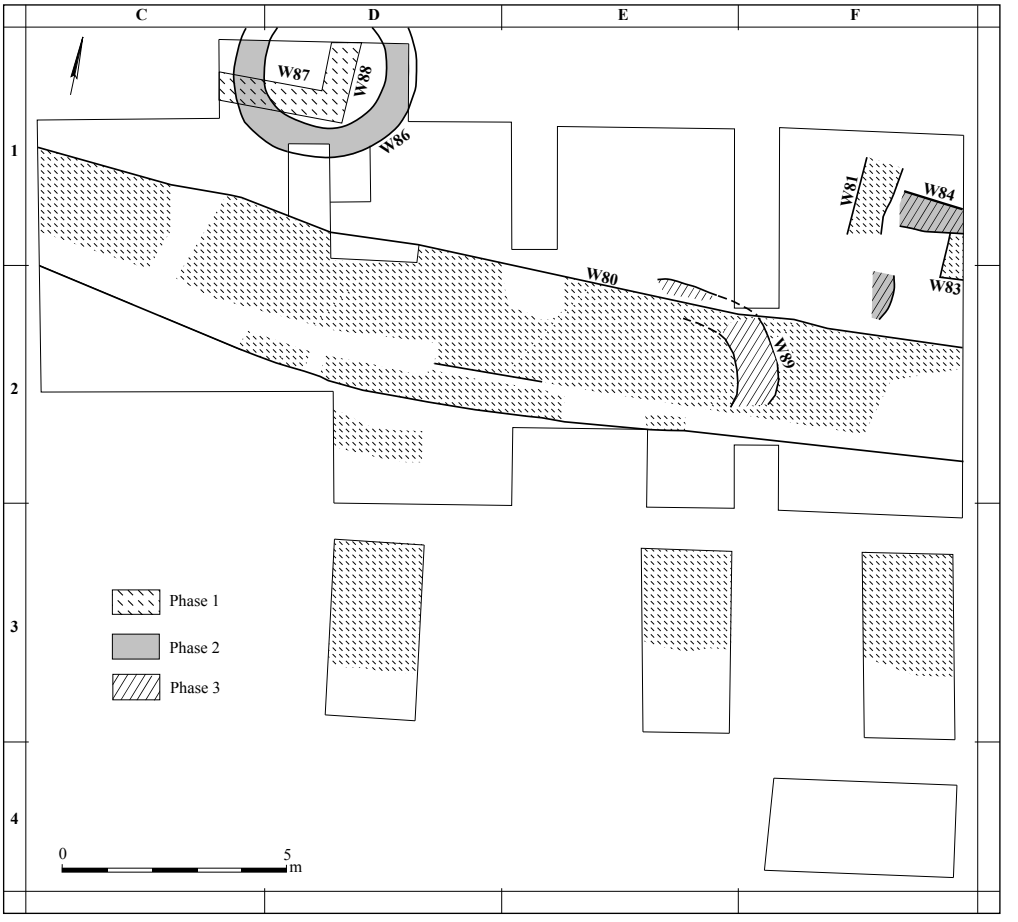
Phase 3 (Plan 3; Figs. 2, 3)

Architectural remains of the earliest settlement phase were uncovered in the central portion of the excavation area (Plans 2, 3), directly below a large Phase 1 wall (W80, see below). The Phase 3 remains consist of a curving wall (W89; Fig. 2) that apparently continues to the west, where it was uncovered in a limited section (Fig. 3). It is built of two parallel rows of medium-sized fieldstones with smaller stones filling the crevices in between (Fig. 2). Although only a small portion of this building was uncovered (Structure 1), it may be reconstructed with a

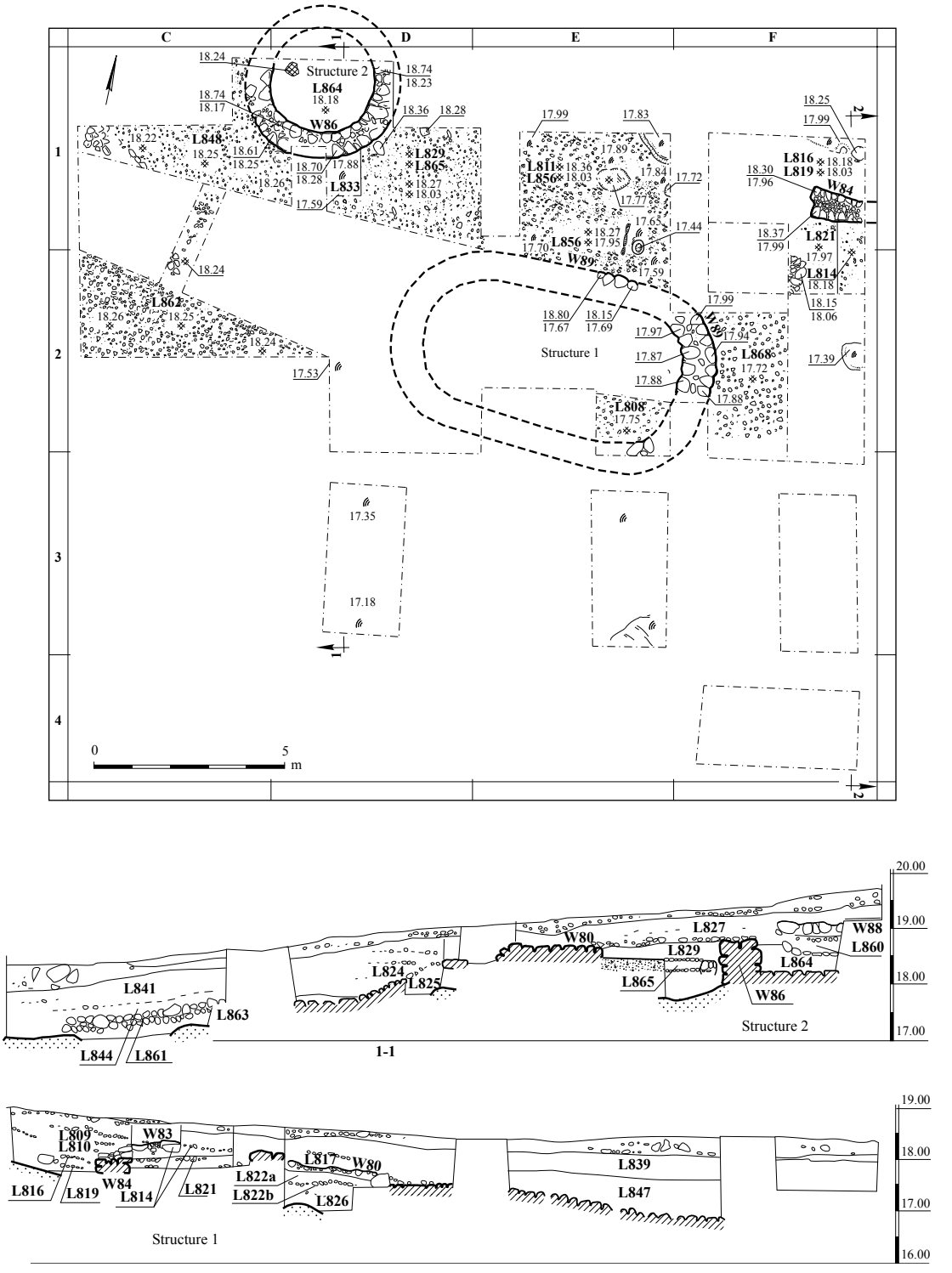
Table 1. General Stratigraphic Correlation of Phasing, Areas A–S

Area	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	General Site Stratum
Phase(s)	1	1	1–3	1	1–2	1–3	1	?	?	1	?	1	1–3	1–3	1	-	1	1	1–4	I (EB II)
Phase	2	-	4	2	3	4	-	?	?	?	?	2	4	4	2	1?	2?	2?	?	II (Late EB IB)
Phase	3	-	-	-	-	-	-	?	-	-	-	-	-	-	3	1?	2?	2?	-	III (Early EB IB)
Phase	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	Pottery Neolithic

Fig. 1. Area O. General view of excavated area, with the exposed remains of the large Phase 1 fortification wall, looking east; a portion of the floor associated with this wall from the north has been retained (center left) to show how it overrode Structure 2 of Phase 2 (far left).



Plan 2. Area O. Composite plan of stratigraphic phases; see also Plan 3: Sections 1–1, 2–2.



Plan 3. Area O. Phases 3–2 (general site Strata III–II), plan and sections.

Fig. 2. Area O. Phase 3. A curving portion of W89 (at center) found below W80 of Phase 1 (at upper center), looking north.

Fig. 3. Area O. Phase 3. Exposed bedrock in Sq E1, looking south; the continuation of W89 is in section at center, below W80 of Phase 1. Note the two hewn cupmarks at center left.

reasonable degree of certainty as an oval-shaped structure, with W89 constituting its eastern apse. The remains of three such buildings were previously excavated approximately 30 m to the north, in Area A (Golani 2003: Plan 2.3).

Within the apse, a limited probe revealed the remains of a surface (L808) made of beaten earth and small stones. This surface could not be unequivocally associated with the extension of W89, which is largely missing in this limited area. Therefore, it is considered to belong to

Phase 3 only on the basis of its relative position and height in relation to W89 and other surfaces, viz., L856 and L868 found outside the building to the north and east (see below).

To the north of W89, a beaten-earth floor was revealed in Sq E1, with numerous small stones and mud-brick debris (L856) on it. This same floor extended to Sq D1 to the west (L865). Dismantlement of the Phase 3 floor in Sq E1 revealed that it had been founded on a fill deposited on and leveling the natural bedrock, here sloping down moderately to the south. This fill contained ceramics of the EB IB period, and appears to have been deposited by the Phase 3 builders. Cleaning of the bedrock revealed a hewn, deep cupmark and two shallow basins (Fig. 3). Since no diagnostic remains earlier than EB IB were found in this area—which would have explicitly dated the construction or use of these hewn features—they must either predate, or were originally incorporated in, the floor.

To the east of W89 and outside Structure 1, a beaten-earth surface with numerous small stones was uncovered (L868). Because Structure 1 was constructed upon a moderate slope, the L868 floor outside the structure was found at a slightly lower elevation than the surface north of the building (L856, see above).

In Sq F1, northeast of Structure 1, a short wall segment (W84) was revealed, preserved to a height of two courses, squared off at its western end. Two superimposed and beaten-earth surfaces with numerous small stones were excavated to the north and south of W84 (Plan 3: Section 2–2). The earlier surfaces (L819, L821), which touch and clearly relate to the base of this wall, were founded upon bedrock, making their indirect association with Phase 3 likely. Thus, W84 was apparently founded in Phase 3, and seems to have continued in use into Phase 2, when the area on both sides of it was covered with a new surface that appears to be associated with the second course of the wall. North of the wall, the earlier surface (L819), composed of beaten earth and small stones, was separated by a layer of debris, 0.15 m thick, from another, similar surface (L816). Likewise, to the south of W84, a beaten-earth surface with small stones (L821) underlies an earlier surface, that, like L819 to the north, was also founded upon bedrock, and is associated with the base of W84 (L814). A small segment of stone construction, possibly the remains of a wall, was uncovered to the south of W84. This feature is probably associated with the Phase 3 surface on the basis of its relative height in comparison with the base of W84 and its associated L821 surface.

Phase 2 (Plan 3; Figs. 4, 5)

In the following occupation phase, about two-thirds of a circular building (Structure 2) were identified in the northwestern portion of the excavated area (Figs. 1, 4). The wall of Structure 2 (W86) was directly overridden by a Phase 1 surface (L827; Plan 3: Section 1–1). The structure was constructed of two rows of medium-sized stones with smaller stones filling the crevices in between. It was preserved to a maximum of three courses in height. Within the structure there was a thick accumulation of burnt mud-brick debris (L864). Partial remains of at least two mud bricks were also revealed *in situ* on the top course of stones of W86.

A thick surface of beaten earth and small stones (L848) was exposed southwest of Structure 2. Remains of a broken store jar were uncovered resting on this surface, next to the structure's base (Fig. 5). A section cut through the Phase 1 wall (W80, see below) revealed this surface to continue south, where it was excavated as L862.

Southeast of Structure 2, a similar surface (L829), associated directly with the base of W86, superimposes the Phase 3 surface (L865), proving the L829 surface and Structure 2 to be later than the Phase 3 remains (see Plan 3: Section 1–1). The L829 surface continued further to the west, where it was excavated as L811. Locus 811 was founded atop W89 of Phase 3, indicating that during Phase 2, Structure 1 (W89) had gone out of use. In Sq F2, beaten-earth and small-stone surfaces (L816, L814) were found superimposed over

Fig. 4. Area O. Phase 2. Half of a circular structure; note the Phase 1 surface of small stones that is associated with the fortification wall (W80 at upper left) overriding the Phase 2 structure.

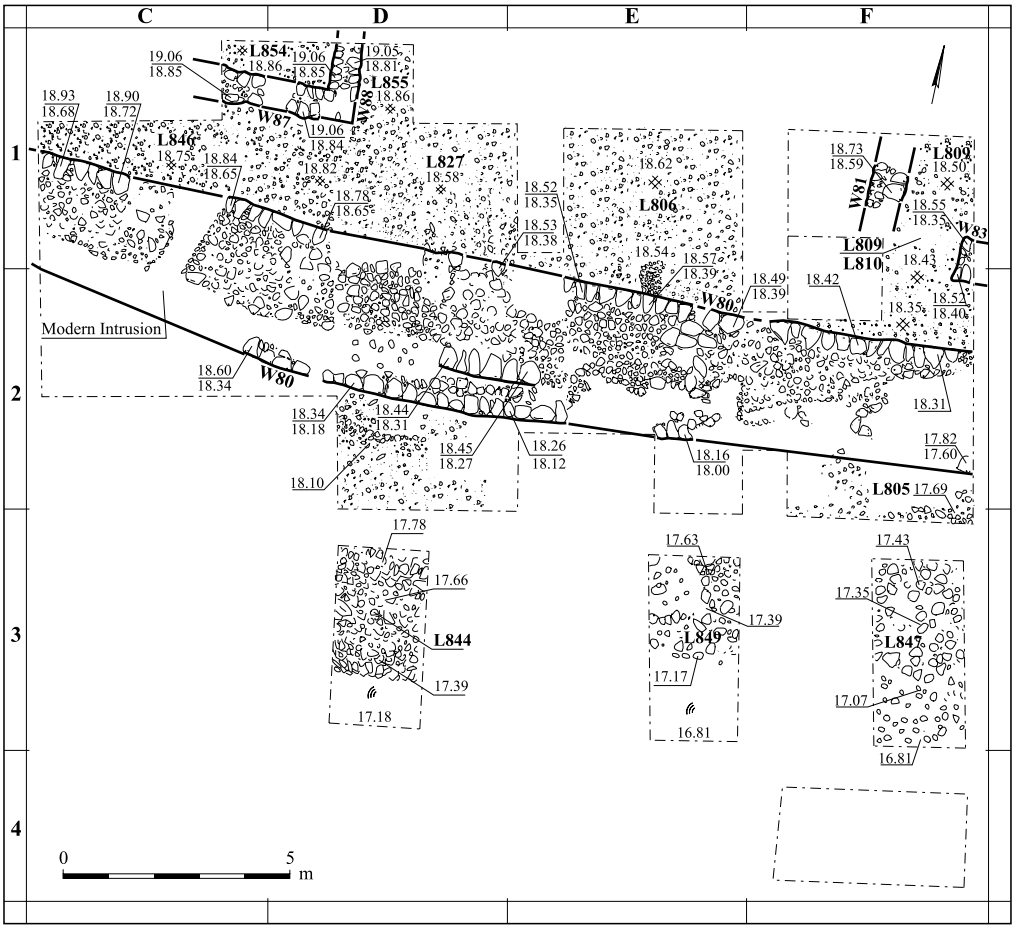
Fig. 5. Area O. Phase 2. Remains of a crushed storage jar next to W89.

Phase 3 surfaces to the north and south of W84 (see above and Plan 3: Section 2–2).

Phase 1 (Plan 4; Figs. 1, 6, 7)

Phase 1 remains were uncovered throughout the excavated area, embedded in dark brown soil just below the present surface. These remains consist of a long, massive wall (W80), interpreted as a fortification, along with an associated glacis to its south and an open area with remains of a few structures to its north.

Wall 80, which extends to the east and west, beyond the borders of the excavated area, was exposed to a length of 21 m (see Fig. 1). The wall is 3.0–3.5 m wide and consists of two parallel rows of medium-sized stones, with smaller stones in between the crevices. Preserved only one course high, it was found badly damaged in its southern, down-slope portion where it had largely eroded away. In addition, due to the wall's proximity to the present ground surface, modern intrusions had removed sizeable portions of its structure. The ancient builders had made no effort to lay the wall on a solid foundation, such as natural bedrock, or to level the area prior to its construction; the wall was founded directly upon a soil fill and on the remains of previous occupation phases (see above). Its location on a mild southward slope and the lack of a solid base for its foundation, made it susceptible to erosion, thus weakening its construction.



Plan 4. Area O. Phase 1 (general site Stratum I); see also Plan 3: Sections 1–1, 2–2.

In the central part of its exposure, an internal line of stones parallel to the southern face of the wall (Fig. 1) appears to indicate repair or buttressing, possibly in response to erosion over time.

To the south of W80, a layer of tightly-packed, small- to medium-sized stones (L861) was found sloping down from the wall to bedrock (Fig. 6; see Plan 3: Section 1–1). This stony layer was relatively thin, higher up the slope near the wall, and somewhat thicker lower down-slope, nearing bedrock. A probe into this layer (Fig. 7) revealed EB II ceramics upon and within it, while underneath it there was a layer of dark brown, alluvial soil (L863; see Plan 3: Section 1–1), which contained small amounts of EB II pottery. The stony layer appears to have been purposefully laid down during EB II, and is interpreted as a built glacis, intended to stabilize the earth outside and down-slope the wall.

To the north of the fortification wall, excavation in four consecutive squares (C1, D1, E1 and F1) did not reveal any walls that could have abutted W80. This area, therefore, appears to have been an open area, possibly a street, adjacent to the wall from the north. All along the northern face of the wall, a uniform

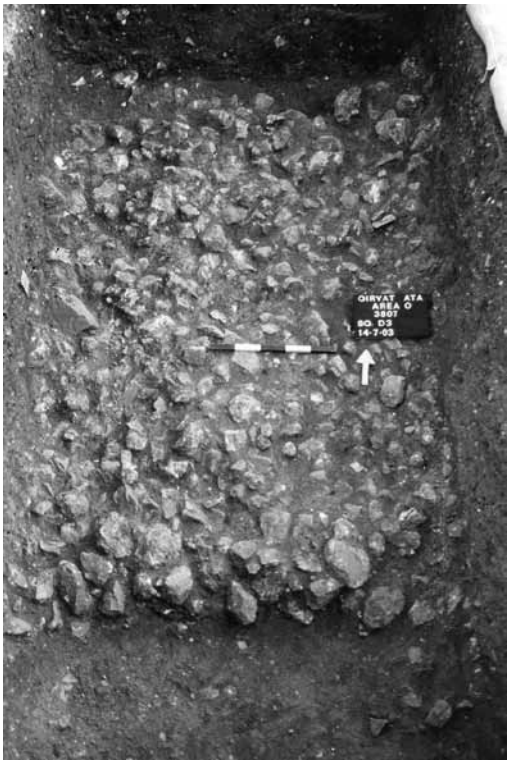


Fig. 6. Area O. Phase 1. Layer of tightly packed stones in Sq D3, sloping down from the fortification wall.

surface (L806, L810, L827, L846) built of small stones, packed earth and ceramics, was excavated, sloping moderately down to W80. In Sqs C1 and D1, the L846 and L827 surfaces override W86 of Phase 2 (see above, Figs. 1, 4; Plan 3: Section 1–1).

Locus 846 and its extension, L827 and L855, relate to two walls (W87 and W88), their corner forming part of a structure that coexisted parallel to the fortification wall. Walls 87 and 88, preserved up to two stone courses high, were built of two rows of medium to small-sized stones with smaller stones filling the crevices in between. Within the confines of this structure, a beaten-earth floor (L854) was exposed, associated with the base of the two walls. Surface L827 in Sq D1 extended to Sq E1 (L806) and further east to Sq F1 (L809). In Square F1, the L809 surface was associated with the base of W81, a small section of a badly eroded wall oriented north–south, and W83, the squared-off end of a wall that continued to the east, beyond the borders of the excavated area and parallel to fortification W80 (see Plan 3: Section 2–2).

Fig. 7. Area O. Phase 1. A section cut through the constructional glacis.

Discussion

The Phase 3 occupation remains of an oval-shaped structure appear to represent the southern margin of the Stratum III, EB IB settlement, originally identified in Area A, and characterized by the construction of curvilinear architecture (Golani 2003:245), a feature typical of EB I in northern Canaan (Braun 1989). Stratum II of the EB IB at Qiryat Ata has been identified so far in the excavation of Areas A, C, D, E, F, L, M and N, and is characterized by the construction of rectangular buildings with externally rounded corners (Golani 1999; 2003). Although no such building was revealed in Area O, the stratigraphic superimposition of Phase 2 on top of the remains of Phase 3 makes it likely that Phase 2 is to be associated with the Stratum II settlement at the site. Previous excavations in Area F also revealed circular structures associated with Stratum II (Golani 2003: Plan 2.22), possibly used for storage. Such structures are a recurring feature during EB IB, often appearing alongside buildings with externally rounded corners, such as at Palmaḥim Quarry, Ashqelon Barneʿa, Eshtaʾol, Beqoʿa and ʿEn Esur (ʿEin Assawir) (cf. Braun 1992; Golani 2005; 2007; 2008; Golani and Storchan 2008:7*, Fig. 4; 2010; Yannai 2006: Plan 2.7). Since no remains of Phases 2 and 3 were found in Sqs D3, E3 and F3, the southern limit of the EB IB occupation at Qiryat Ata appears to be demarcated clearly in this area as well, along the line of the Phase 1 (EB II) fortification wall. This later, outstanding feature is a clear indication that the transition to EB II was marked by the construction of a fortification around the settlement.

The wide and massive Phase 1 wall uncovered in Area O is of prime importance, as this is the first concrete indication that the site was fortified. The dating of the defensive wall to EB II is consistent with our knowledge concerning the urbanization process in the southern Levant. Although fortified urban centers were already constructed during the preceding EB IB period, many more appear to have been founded during EB II. The fact that the wall was constructed directly upon natural soil deposits and not on the underlying bedrock appears to indicate that it was built rather hastily, perhaps in response to an imminent threat. This action necessitated the construction of a supporting glacis in order to stave off surface runoff and to prevent the undercutting of the wall's foundations. Constructional ramparts appear already with the first fortification walls of EB IB; the *terre pisé* glacis supporting a mud-brick wall is known from the fortifications at Tel Shalem (Eisenberg 1996:6–7) and a glacis of packed earth and small stones along with a hewn moat and stone wall foundations dating to EB II were uncovered at Makhruq in the Jordan Valley (Damati, Yeivin and Eisenberg 1993).

Excavations in the peripheral areas of the site (Areas B, D, G and now Area O) have revealed only a single occupation phase of EB II. In contrast, excavation in the more central, core areas of the site (Areas C, E, F, J, M and N) have revealed two to three architectural phases of EB II, with a build-up of two meters of occupation debris. In the absence of a direct stratigraphic link between the separate excavation areas, and as no substantial differences could be observed in the ceramic repertoire of each of the EB II phases, it is as yet impossible to determine at what stage of the EB II occupation the site had been fortified.

THE FINDS

POTTERY (Figs. 8, 9)

The ceramic remains from Area O are similar to those recovered from other excavated areas at the site, which have thus far produced two large and homogenous assemblages, dating to EB IB (Strata III–II) and EB II (Stratum I) (cf. Golani 2003:81–169). Based on the architectural and ceramic finds deriving from Area O, the three stratigraphic phases identified here may be firmly linked to general site Stratum I of EB II (Area O, Phase 1) and Strata II–III of EB IB (Area O, Phases 2 and 3 respectively). As the EB IB and EB II ceramic assemblages at

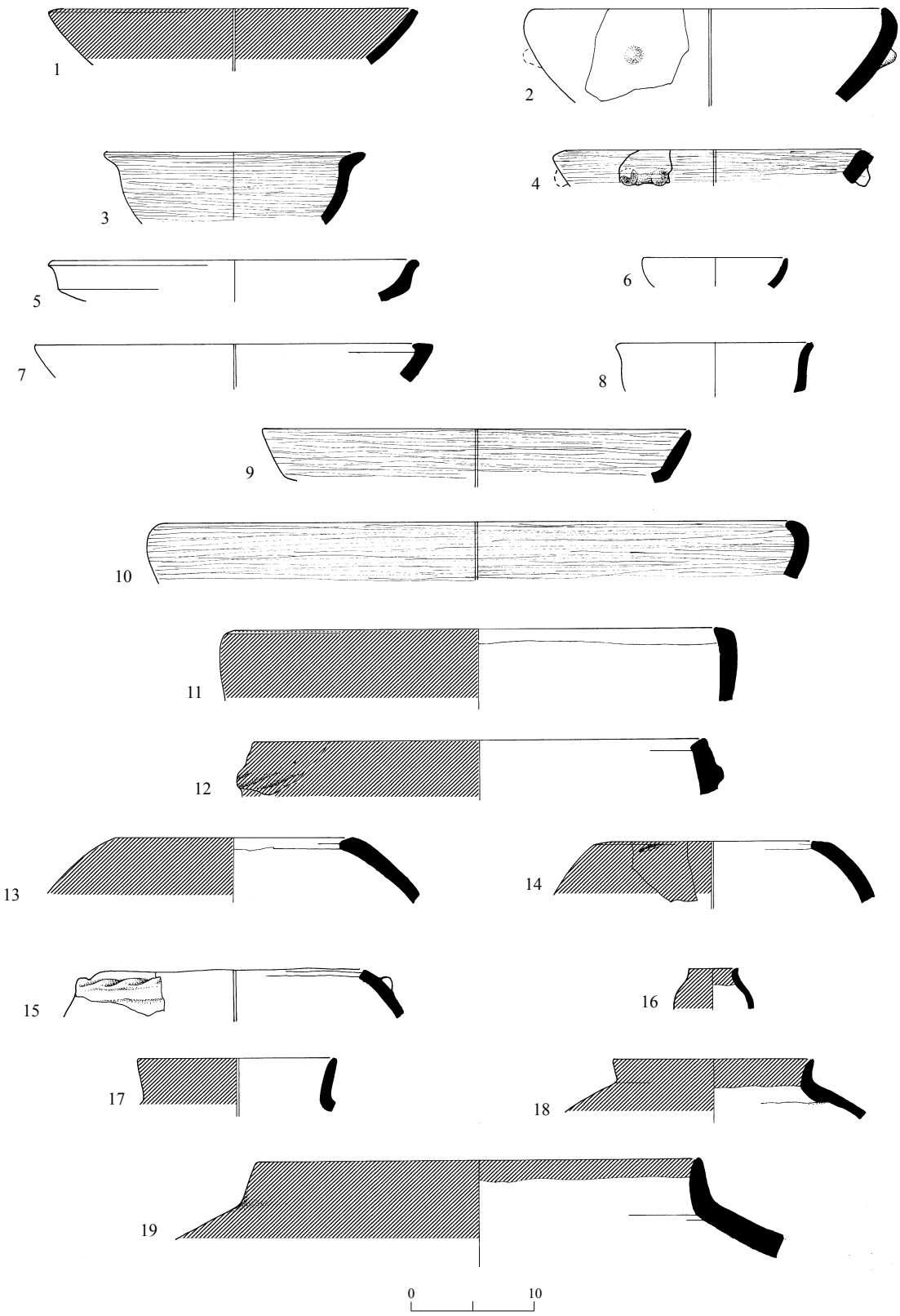


Fig. 8. Area O, EB IB ceramics from Phases 3–2.

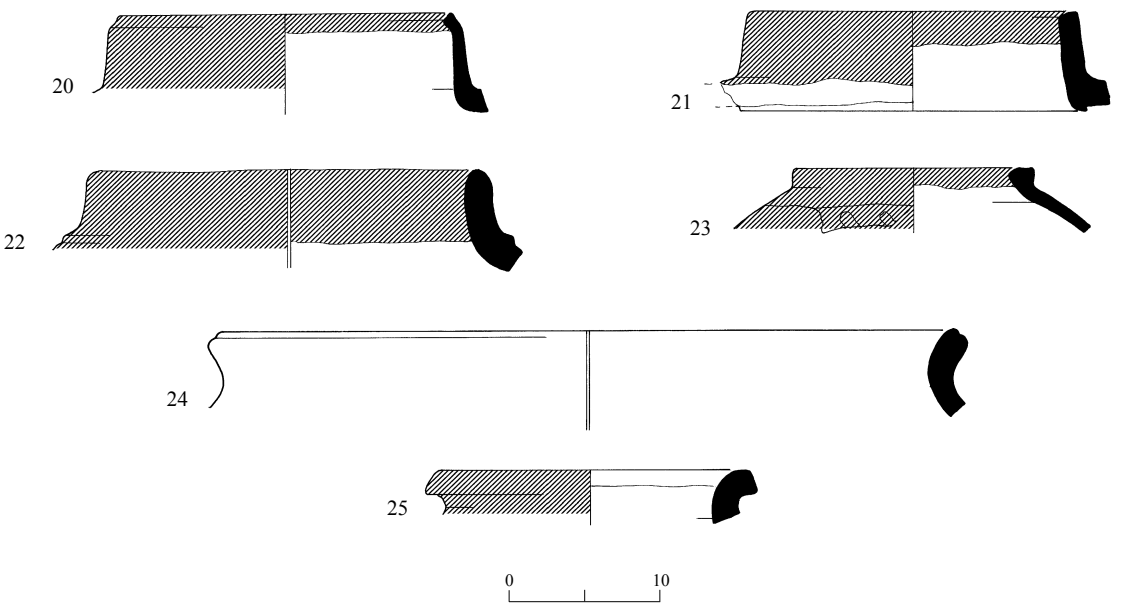


Fig. 8. (cont.)

No.	Type	Locus	Reg. No.	Description
1	Bowl B IIa	856	8161-1	Pale brown–orange clay, gray core, small white and gray grits, red wash, well-fired
2	Bowl B IIc	858	8226-3	Pale brown–yellow clay, gray–yellow core, small white and gray grits, applied conical projection, well-fired
3	Bowl B IIIc	867	8228-1	Light gray clay, light gray core, small white and gray grits, burnished, well-fired
4	Bowl B IIId	865	8204-2	Light gray clay, gray core, small white and gray grits, burnished, medium fired
5	Bowl B IIIe	856	8222-3	Light gray clay, light gray core, small white and gray grits, burnished, well-fired
6	Bowl B IVa	848	8181-1	Pale brown–orange clay, light gray core, small white grits, red wash, well-fired
7	Bowl B Va	862	8196-1	Pale brown–orange clay, gray core, small white grits, well-fired
8	Bowl B VI	864	8217-1	Pale brown–yellow clay, brown core, small white grits, well-fired
9	Bowl B VII	858	8226-4	Pale brown–orange clay, gray core, small white and gray grits, red horizontal burnish, well-fired
10	Krater K IIa	833	8076-1	Brown–gray clay, gray core, small white and gray grits, burned red wash, well-fired
11	Krater K IIb	865	8226-2	Pale brown–yellow clay, gray–yellow core, small white and gray grits, red wash on ext., well-fired
12	Krater K III	811	8019-1	Pale brown–yellow clay, gray–yellow core, small white and gray grits, red wash on ext., well-fired
13	Holemouth H Ia	865	8201-1	Pale brown–yellow clay, gray–yellow core, small white and gray grits, red wash on ext., well-fired
14	Holemouth H V	856	8222-2	Pale brown–yellow clay, gray core, small gray and shiny grits, diagonal incision below rim, red wash on ext., medium fired
15	Holemouth H VII	811	8024-1	Brown–gray clay, gray core, small white and gray grits, applied rope decoration below rim, well-fired

◂ **Fig. 8** (cont.)

No.	Type	Locus	Reg. No.	Description
16	High loop-handled cup HLC	865	8201-2	Pale brown–yellow clay, gray–yellow core, small white, red wash on ext. and int. of rim, well-fired
17	Store jar SJ I	821	8040-1	Pale brown–yellow clay, pale brown–yellow core, small white and gray grits, red wash on ext. and int. of rim, well-fired
18	Store jar SJ I	848	8211-1	Pale brown clay, gray core, small white and gray grits, red wash on ext. and int. of rim, medium fired
19	Store jar SJ IIa	856	8222-1	Pale brown clay, brown–gray core, small white and gray grits, red wash on ext. and int. of rim, medium fired
20	Store jar SJ IIb	816	8088-1	Pale brown–orange clay, gray core, small white and gray grits, red wash on ext. and int. of rim, medium fired
21	Store jar SJ IIb	858	8226-1	Brown clay, brown core, small white and gray grits, red wash on ext. and int. of rim, well-fired
22	Store jar SJ IV	848	8203-1	Pale brown–orange clay, gray core, small white and gray grits, plastic ridge on shoulder, red wash on ext. and int. of rim, well-fired
23	Store jar SJ Va	848	8162-1	Light yellow–brown clay, gray core, small gray grits, red wash on ext. with diagonal red stripes on body, red wash on int. of rim, well-fired
24	Store jar SJ VI	865	8214-1	Brown–gray clay, gray core, small white and gray grits, well-fired
25	Store jar SJ VII	865	8204-1	Light yellow–brown clay, gray core, small white and gray grits, red wash on ext., well-fired

Qiryat Ata have already been researched in a comprehensive manner and presented in an inclusive typology (Golani 2003), only a representative selection of pottery for each period is briefly presented in the following section, with special attention given to new typological forms, not encountered in previous excavations at the site. In addition, a statistical analysis of the ceramic assemblages of all three phases was conducted along the same guidelines set forth previously (Golani 2003:81–83, 147–152).

Phases 3–2 (Fig. 8)

The pottery repertoire associated with these two phases includes bowls (Fig. 8:1–9), kraters (Fig. 8:10–12), holemouth jars (Fig. 8:13–15), a high loop-handled cup (Fig. 8:16) and store jars (Fig. 8:17–25). The assemblage is typically representative of EB IB in northern Israel, and is closely paralleled by similar assemblages in the north deriving from sites such as Tel Qashish Strata XIII–XV (Zuckerman 2003), Bet Ha-ʻEmeq Stratum III (Givon 1993), Meʻona Stratum II (Braun 1996:18–22, Figs. 11, 12), Rosh Ha-Niqra Stratum II (Tadmor and Prausnitz 1959:79–81), Tel Kabri Stratum 9 (Kempinski and Niemeier 1990), ʻEn Shadud Strata I–II (Braun 1985), Megiddo Strata XIX–XX, Stages IV–VII (Engberg and Shipton 1934), Tel Shalem Strata I–III (Eisenberg 1996:8–2, Figs. 13–17), Tel Kitan Stratum VII (Eisenberg 1993), Tel Megadim (Samuel R. Wolff, pers. comm.) and ʻEn Esur (Assawir) Stratum II (Yannai 2006: Figs. 4.53–4.61, 4.72–4.76).

A statistical analysis of the ceramic type-frequency and technological characteristics (Tables 2, 3) indicates no appreciable differences between the EB IB ceramic assemblages of Phases 3 and 2 in Area O. The same applies to the ceramic assemblages attributed to Strata III–II in previous excavations at the site. All exhibit the same morphological types and the same technological characteristics. Noteworthy, however, is the recognition of a

Table 2. Area O, Phase 3 (Loci 808, 819, 830, 831, 833, 856, 858, 865, 868)—Frequency of Ceramic Types and Characteristics

Type	Bowls									Kraters			Holemouth Jars						HLC	Store Jars							Total	%
	Ib	IIa	IIc	IIIb	IIIc	IIId	IIIe	IVa	VII	IIa	IIb	IV	Ia	Ib	IIa	IIb	IV	V		I	IIa	IIb	IIIa	IV	Va	VII		
Plain			1								2	2	7	1	1		1	6								2	23	27.0
RB									1																		1	1.2
RS	1	2	3					1		2	2		6	10	1	1		5	1	2	1	2	1	2	1	2	46	54.1
GB				1	10	1	1																				13	15.3
GBI					2																						2	2.4
Total	*24*									*8*			*39*						*1*	*13*							*85*	*100.0*

RB = Red-Burnished, RS = Red-Slipped or Painted, GB = Gray-Burnished, GBI = Gray-Burnished Imitation, HLC = High Loop-Handled Cup

Table 3. Area O, Phase 2 (Loci 811, 814, 816, 848, 862, 864)—Frequency of Ceramic Types and Characteristics

Type	Bowls							Kraters				Holemouth Jars							AM	JT	T	Store Jars								*Total*	%
	IIc	IIIc	IIIe	IVa	Va	VI	VII	IIa	IIb	III	IV	Ia	Ib	IIa	IIb	IV	V	VII				I	IIa	IIb	IIIa	IIIb	IV	Va	VI		
Plain					1	1		1	2		1	7	7	1	4	1	1	1		1			2	1		1				33	34.4
RB							1																							1	1.0
RS	1							5	9	1		8	4	4	3				2		1	4	1	1	1	1	2	2	2	50	54.2
GB		5	2	3																										10	10.4
Total	*14*							*19*				*41*							*2*	*1*	*1*	*18*								*96*	*100.0*

RB = Red-Burnished, RS = Red-Slipped or Painted, GB = Gray-Burnished, GBI = Gray-Burnished Imitation, AM= Amphoriskoi, JT = Juglet, T = Teapot

new type of shallow, carinated bowl (Type VII), with a horizontally burnished red slip (Fig. 8:9) that had not been identified in the previous excavations at the site. It is identical in form to the gray burnished bowls that have been found at Qiryat Ata (Golani 2003: Fig. 4.2:15). Morphological imitations of gray burnished bowls are common in northern Canaan during EB IB, and while most of these usually bear only a red slip or wash (Zuckerman 2003:49), burnishing may be found as well.

In addition, the ceramic assemblages from the two EB IB phases in Area O exhibit technological characteristics similar to those pertaining to the EB IB pottery repertoire recovered from other excavation areas at the site. These include a predominance of red wash or red slip applied to all pottery forms (54.1 and 53.1% from Area O, Phases 3 and 2 respectively).

Phase 1 (Fig. 9)

The pottery repertoire associated with this phase is typically representative of EB II in northern Israel and includes bowls (Fig. 9:1–3), platters (Fig. 9:4–6), a krater (Fig. 9:7), holemouth jars (Fig. 9:8–11), a jug (Fig. 9:12) and store jars (Fig. 9:13–19). It is closely paralleled by similar assemblages in the north, such as those uncovered at Tel Qashish Stratum XII B–C (Zuckerman 2003), Bet Ha-'Emeq Stratum II (Givon 1993), Me'ona Stratum I (Braun 1996), Rosh Ha-Niqra Stratum I (Tadmor and Prausnitz 1959), Tel Kabri Strata 7–8 (Kempinski and Niemeier 1990) and Tel Dan Stratum XV (Greenberg 1996), all dated to EB II.

Statistical analyses of the ceramic-type frequency and technological characteristics of the EB II pottery in Area O (Table 4), with that recovered from previous excavations at the site, indicate no significant differences between them; all exhibit the same type morphologies and the same technological characteristics. The EB II pottery repertoire from Area O also bears similar technological characteristics to those defined in previous excavations at the

Table 4. Area O Phase 1 (Loci 806, 809, 810, 822a, 823, 824, 825, 827, 828, 844, 846, 847, 849, 854, 855)—Frequency of Ceramic Types and Characteristics

Type	Bowls				Platters					Kraters	Holemouths					JT	J	Store Jars						Total	%	
	Va	Vc	VIIIb1	Xa	Ia	Ic	Id	IIa	Vb	Ia	I	II	III	IV	V			Ia	Ib2	Ib3	IIa	IId	IIf	IIIa		
Plain	1									1	8	1	4	3	1			1	1	1				1	23	43.40
M				1			2									2	3		2		3	4	1		18	34.00
M, B			1		2		2	2	1																8	15.10
M, B, RS						1	1																		2	3.75
RB		1		1																					2	3.75
Total	*5*				*11*					*1*	*17*					*2*	*3*	*14*							*53*	*100.00*

M = Metallic firing, B = Burnished, RB = Red-Burnished, RS = Red-Slipped or Painted

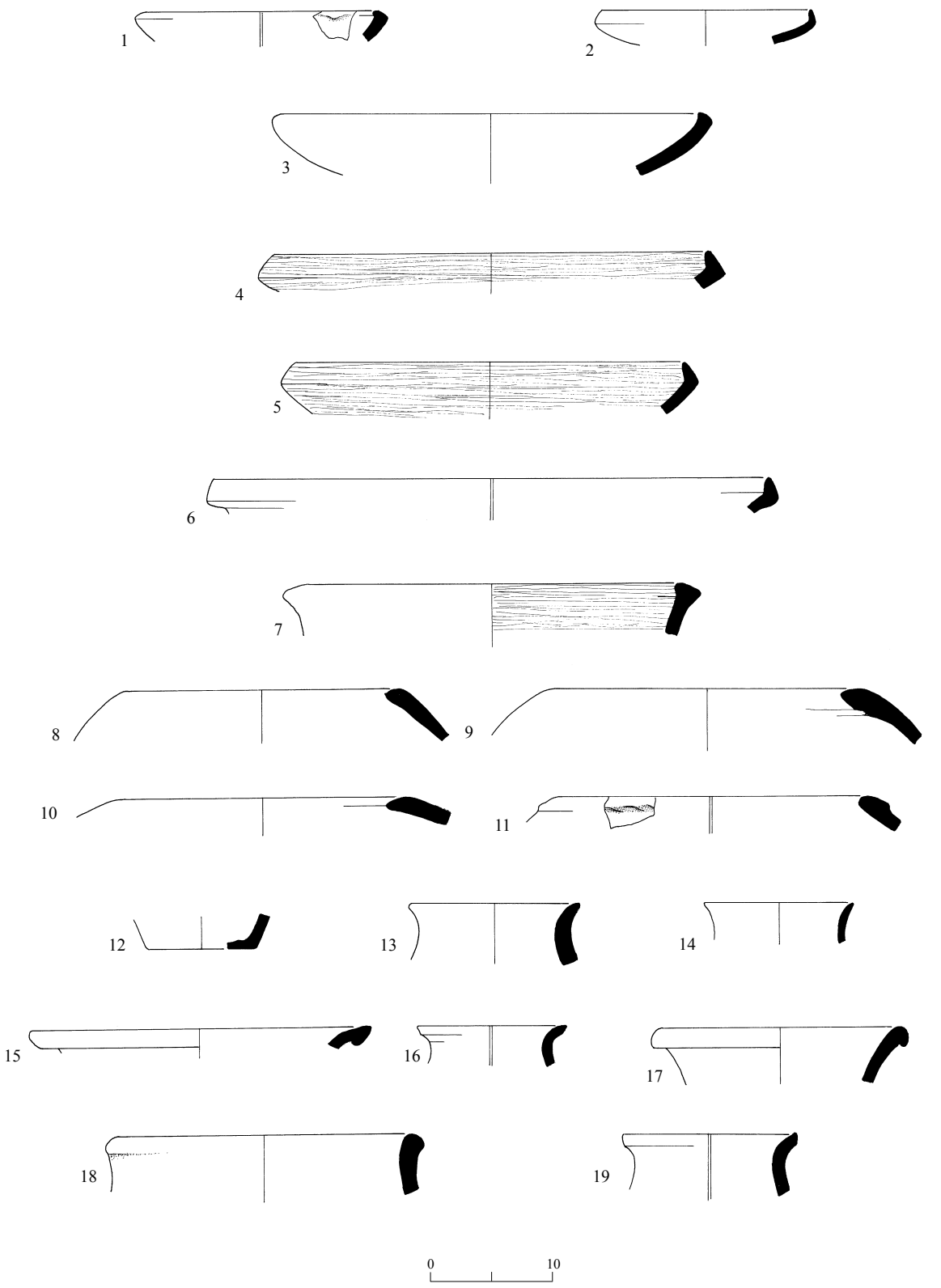


Fig. 9. Area O, EB II ceramics, Phase 1.

◂ **Fig. 9**

No.	Type	Locus	Reg. No.	Description
1	Bowl B Va	827	8129-1	Pale brown clay, gray core, small white grits, well-fired
2	Bowl B VIIIb1	847	8109-1	Red–brown clay, gray core, small white grits, burnished, very well-fired
3	Bowl B Xa	822	8047-1	Pale brown–yellow clay, gray core, small white and gray grits, very well-fired
4	Platter PL Ia	827	8129-2	Red–brown clay, gray core, small white grits, burnished, very well-fired
5	Platter PL Ia	847	8136-1	Pale red–brown clay, gray core, small white grits, burnished, very well-fired
6	Platter PL Id	827	8054-1	Red–brown clay, gray core, small white grits, burnished, very well-fired
7	Krater K Ia	849	8137-1	Brown–gray clay, gray core, small white and gray grits, very well-fired
8	Holemouth H I	844	8099-1	Gray–brown clay, brown core, small white grits, well-fired
9	Holemouth H III	806	8009-1	Gray-brown clay, brown core, small white grits, well-fired
10	Holemouth H IV	854	8154-1	Pale gray–brown clay, gray core, small white grits, well-fired
11	Holemouth H V	846	8215-1	Gray clay, gray core, small white grits, rope decoration below rim, well-fired
12	Jug J	844	8099-2	Red–brown clay, gray core, small white grits, burnished on ext., very well-fired
13	Store jar SJ Ib2	827	8059-1	Pale brown–yellow clay, gray core, small white and gray grits, red wash on ext., well-fired
14	Store jar SJ Ib3	825	8050-1	Pale brown clay, gray core, small white and gray grits, well-fired
15	Store jar SJ IIa	827	8054-2	Pale brown–orange clay, gray core, small white and gray grits, very well-fired
16	Store jar SJ IId	827	8054-3	Pale brown–red clay, gray core, small white and gray grits, very well-fired
17	Store jar SJ IIf	849	8118-1	Pale brown–orange clay, gray core, small white and gray grits, very well-fired
18	Store jar SJ IIIa	824	8049-1	Pale brown–yellow clay, gray core, small to mediun white and gray grits, very well-fired
19	Store jar SJ IIIB	847	8130-1	Pale brown–orange clay, gray core, small white grits, well-fired

site. First and foremost is the predominance of metallic ware (51.9%) and conversely, the drastic reduction in the use of red slip and wash decoration (7.4%) so common in Strata III–II.

Miscellaneous Finds

Decorated Sherds (Fig. 10:1–6).— The objects depicted in Fig. 10:1–6 comprise a selection of decorations or potter's marks recovered from the excavation of Area O. The pre-firing applied markings were found on store-jar handles (Fig. 10:1–4), on the lower side of a spout (Fig. 10:5) and on the rim of a holemouth jar (Fig. 10:6). The fabric and distinctive red wash decoration on all these sherds indicate that they probably belonged to EB IB vessels, regardless in which phase they were found. In all cases, the red wash appears to have

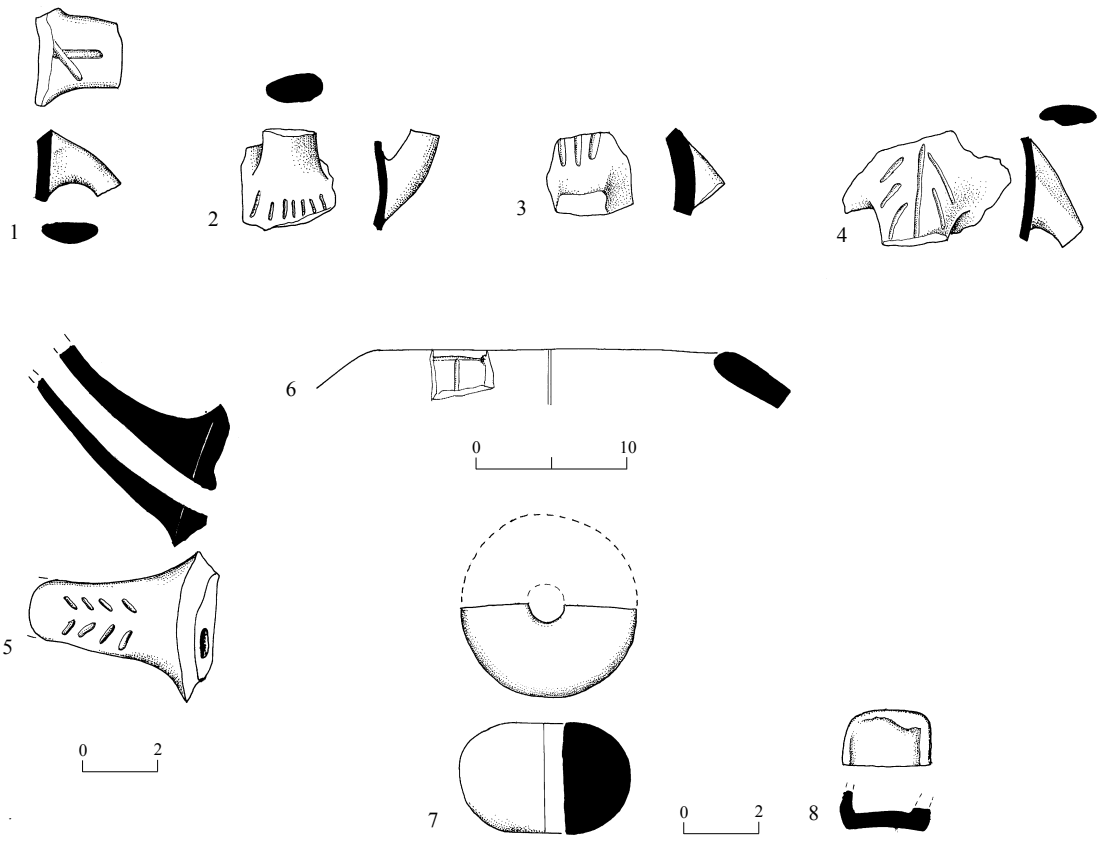


Fig. 10. Area O. Various ceramic finds.

No.	Type	Locus	Reg. No.	Description
1	Decorated handle	803	8157	Pale brown–orange clay, gray core, small white and gray grits, red wash on ext., incised decoration, well-fired
2	Decorated handle	814	8023	Pale brown–orange clay, gray core, small to medium white and gray grits, red wash on ext., incised decoration, well-fired
3	Decorated handle	848	8169	Pale brown–orange clay, gray core, small white and gray grits, red wash on ext., incised decoration, well-fired
4	Decorated handle	822a	8007	Pale brown–orange clay, gray core, small white and gray grits, red wash on ext., incised decoration, well-fired
5	Decorated spout	848	8110	Pale brown–orange clay, gray core, small white and gray grits, red wash on ext., incised decoration, well-fired
6	Holemouth with potter's mark	809	8071	Pale brown–orange clay, gray core, small white grits, red wash on ext., potter's mark near rim, medium fired
7	Ceramic spindle whorl	822b	8047	Gray clay, brown core, small white grits, poorly fired
8	Ceramic object	848	8203	Pale brown clay, gray–brown core, small white and gray grits, well-fired

been applied only after the incisions were made, indicating that they are to be seen as an integral part of the manufacturing process. The marks on the handles are not uncommon and were found in previous excavations at the site (Golani 2003: Fig. 7.8). A T-shaped marking

found below the rim of a holemouth jar (Fig. 10:6) is incomplete, but does not necessarily appear to have served a decorative purpose. Although the purpose of all these marks has yet to be clarified, they are certainly not related to the contents of the vessel, as they were applied before firing. They may have served as a sign of ownership, a craftsman's signature or simply for decoration.

A Spindle Whorl (Fig. 10:7).— A fragment of a ceramic spindle whorl was recovered from debris on a Phase 3 surface (L822b), and is associated with the EB IB occupation in this area. Whorls hafted on suspended spindles provided continuous rotary motion on the flywheel principle, enabling the twisting of fibers to fashion thread (Barber 1991:70–78; Shamir 1996). The whorl is made of gray, poorly fired clay with numerous white grits and a dark brown core. According to the weight of the fragment, 34.3 g, the total weight of the original whorl may be estimated at about 69 g. The whorl was made by shaping clay, perforating it with a stick when the clay was still in leather-hard condition and then by firing. Such whorls are relatively common throughout the Early Bronze Age. Numerous examples have been recovered in previous excavations at Qiryat Ata, where they have been classified as Type 2 Doughnut-Shaped, Fired Clay Whorls (Shamir 2003), and also at Azor (Shamir 1999).

Special Ceramic Object (Fig. 10:8).— A unique item recovered from Phase 2 (EB IB) debris upon one of the surfaces (L848) is a U-shaped ceramic object that is but a portion of a larger item. Its fabric and find context indicate that it can be associated with EB IB. This enigmatic fragment appears to have been part of the base of a rectangular or square receptacle or possibly constitutes a portion of a model of some sort. A similar object, identified as a clay mold, was recovered from Stratum 5 at Area J in the site of Ashqelon Afridar, dating to EB IA (Baumgarten 2004: Fig. 10:15).

CYLINDER SEAL IMPRESSIONS (Fig. 11)
Raphael Greenberg

Four impressions are presented here, new additions to the ten published in the first site report (Greenberg 2003) and two further impressions published by Braun (2004: Cat. Nos. 2, 3).[3] This brings the number of published impressions from Qiryat Ata to a total of 16, 12 of which belong to the Metallic Ware industry of northern Canaan (Greenberg and Porat 1996; Greenberg 2001).[4] Two of the impressions (Cat. Nos. 2 and 3) are from the present excavations in Area O, while the other two (Cat. Nos. 1 and 4) originated from Area N (Golani 2006), whose full publication is pending.

Early Bronze Age I Impressions

1. B7166, L754, Fig. 11:1. A finely executed design on a diminutive seal (estimated dimensions: H 11 mm, D 6 mm). The seal was rolled in an apparently random manner across the body of a large store jar: judging by the fabric—buff-orange with limestone and crushed calcite inclusions—it would appear to be a Type IIa pithos (Golani 2003:101; Zuckerman 2003:53), the type most often associated with cylinder seal impressions in EB I.

At first glance, the design resembles those of other impressions from Qiryat Ata and Tel Qashish, often designated as 'eye motifs' (Ben-Tor 1994:17; 2003:170; Braun 2004:15–18). In the north Mesopotamian heartland, the eye motif is seen to be a schematization of various types of animal arrangements, not least among them fish and quadrupeds (Basmachi 1994: Pls. 12–15). Seals of this type are dated to the mid- to late-fourth millennium, as are their Levantine counterparts. A closer look at the Qiryat Ata seal reveals further details: the 'eye motif' is in fact a schematized rendition of quadrupeds in a *tête-bêche* arrangement, with each 'eye' in fact comprising the elaborately curved horn of an animal presented in schematic profile. This is a skilful amalgam of the 'eye' motif with another north Mesopotamian motif consisting

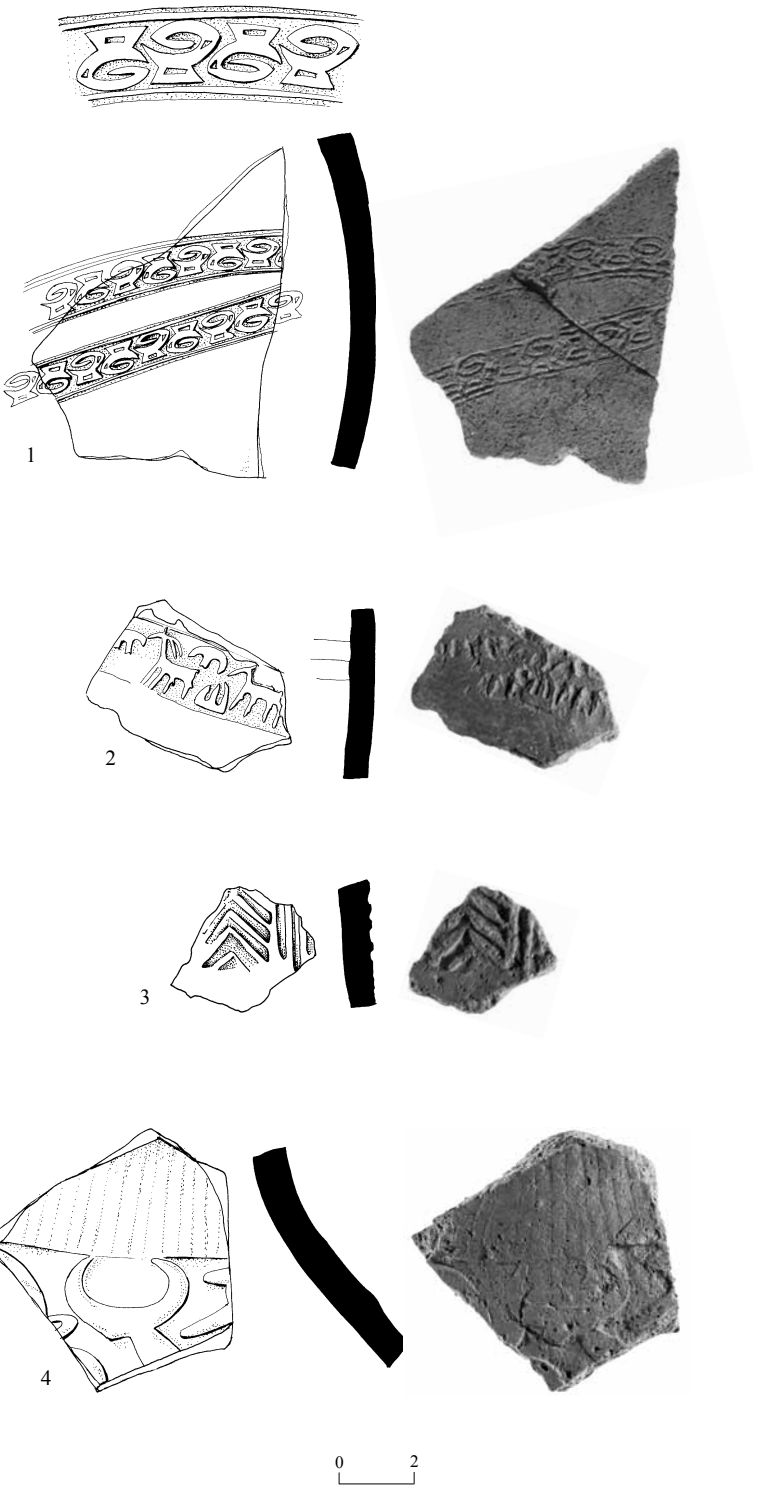


Fig. 11. Area O. Cylinder seal impressions: (1, 2) EB I; (3, 4) EB II.

of pairs of horned quadrupeds, the prototype of which appears in a rectangular stamp from Tepe Gawra (Speiser 1935: Pl. 55:a). The quality of the design and the size of the seal suggest that we are in the presence of yet another product of the western Jezreel Valley artist who produced the well-known animal frieze sealings found at Tel Qashish, ʻEn Shadud and Megiddo (Ben-Tor 1994:23). One suspects that provenience studies on these sealings could identify more specifically the site or sites where this artist was active.

2. B8169, L848, Fig. 11:2. This sealing, larger and more rustic in character than the previous one (estimated size H 18 mm, D 13 mm), was impressed on a red-slipped jar of indeterminate type, made in a gray fabric with organic inclusions. The impression on the too-wet clay is somewhat indistinct. It represents a new variation on the animal frieze. Here, horned quadrupeds advance in file to the left. Severely atrophied, antithetic three-pronged animal figures serve as space-fillers. The seal belongs to the well-attested group of animal-file seals typifying the southern Levant (Joffe 2001), or, more specifically, the Jezreel Valley and Levantine coast (Dunand 1945: Fig. 21; Braun 1985; Ben-Tor 1994; 2003).

Early Bronze Age II Impressions

3. B8103, L801, Fig. 11:3. Impressed on a North Canaanite Metallic Ware (NCMW) jar, the fragmentary sealing probably belongs to the herringbone and concentric circle/square motif already recorded at Qiryat Ata (Greenberg 2003: Fig. 7.1:2).

4. Found during section-cleaning, Fig. 11:4. Impressed on the shoulder of a combed NCMW pithos, the fragmentary impression shows the crescent horns of a cow, *en face*, and part of its long neck. To the right and left are additional elements, too fragmentary to be identified with certainty. The bovine head immediately calls to mind the seal impressions from Khirbat ez-Zeraqun (Mittmann 1974; Genz 2002: Pl. 27)—a fragment and a complete frieze encircling the neck of a NCMW pithos—and there can be little doubt that the two seals, although not identical, were cut by the same hand. The design on the Khirbat ez-Zeraqun impression can be used to partially reconstruct the Qiryat Ata sealing: with the distance between horn-tips identical on both impressions, we may assume the rest of the seal was of similar proportions. In that case, the loop and curved contour to the left of the cow may be reconstructed as the tail and horn of an ibex-like figure that is led by a human figure in the ez-Zeraqun impression. The object above the cow's back (a spear wielded by the human figure in the ez-Zeraqun impression) resists identification.

The implications of the Qiryat Ata seal for Khirbat ez-Zeraqun chronology might be significant. Found in the last building phase at the latter site, the rimless pithos should be considered an heirloom brought up from an earlier, EB II phase. Harrison (2004) recently suggested that EB II might have had a more substantial presence at ez-Zeraqun than that suggested by the excavators; the new find adds weight to Harrison's suggestion.

GROUNDSTONE OBJECTS (Fig. 12)

The items illustrated here are a representative selection of groundstone objects recovered from Area O.

Perforated Stones (Fig. 12:1, 2).— Two perforated, stone ring fragments were recovered. One (Fig. 12:1) is half of a squat globular-shaped object made of non-vesicular basalt with a double-cone perforation. It weighs 163.7 g, and its original weight may be extrapolated as approximately 327 g. The object derived from a Phase 3 surface in Area O, dated to EB IB. Perforated stone rings are common at Early Bronze Age sites, although their exact use is ill-understood (Rowan 2003:189). This item may have been used as a weight, a spindle whorl, a flywheel or a macehead (Rowan 2003:189) amongst other possibilities. Similar objects

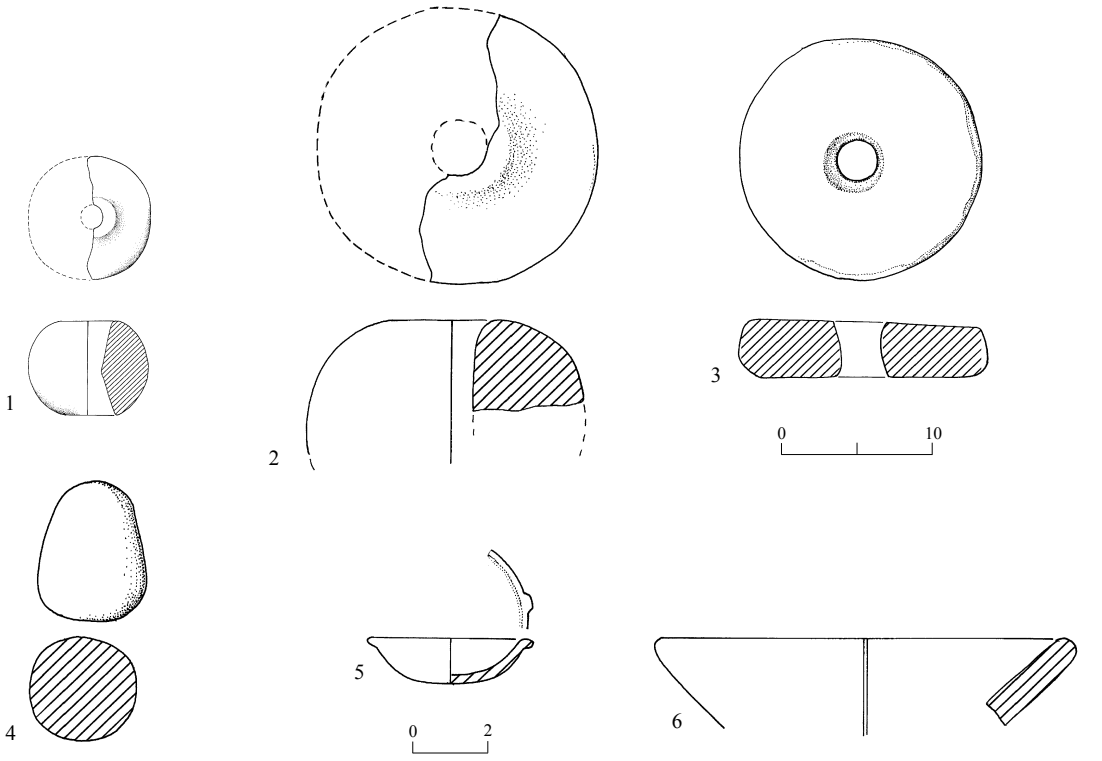


Fig. 12. Area O. Groundstone objects.

No.	Type	Locus	Reg. No.	Description
1	Macehead	856	8169	Dense, non-vesicular basalt
2	Macehead	829	8068	Hematite
3	Tournette?	Surface	8014	Dense, non-vesicular basalt; polish marks on both flat sides
4	Rubber/ Abrader/ Pestle	806	8144	Dense, non-vesicular basalt
5	Stone bowl	865	8214	Gray soft stone
6	Stone bowl	856	8222	Dense, non-vesicular basalt

have been found previously at Qiryat Ata (Rowan 2003: Fig. 6.2:7), as well as at ʿArad (Amiran et al. 1978: Pl. 77:8, 13).

The second perforated stone item (Fig. 12:2) is made of hematite and probably is part of a macehead. It was recovered from debris resting on a Phase 2 surface in Area O dated to EB IB. Hematite maceheads are common during the Chalcolithic period and continue to be found in Early Bronze Age contexts (Sebbane 1998).

Potter's Wheel/Tournette? (Fig. 12:3).— A disc-shaped object, with a central perforation drilled from both sides, was found on the surface in Area O. This object may be interpreted as a slow potter's wheel or tournette (cf. Roux and de Miroschedji 2009). The extremely polished nature of both its flat surfaces indicates a long, repetitive and abrasive use against a rotary stone.

Similar artifacts are known from ʿArad (Amiran et al. 1978: Pl. 77:5–10), as well as

from Tel Megadim (Rowan, in prep.) while earlier contexts are known from Wadi Ghazzeh Site E (Macdonald 1932: Pl. XXVIII.24). A very similar object has also been recovered from an EB II context in Area A at Qiryat Ata (Rowan 2003:191, Fig. 6.3:1), and while the present object from Area O was found *ex situ*, its relative position and proximity to the EB II occupation phase and the similarity between the two objects suggests that the Area O item also should be dated to EB II.

Rubber/Abrader/Pestle (Fig. 12:4).— A complete pestle made of non-vesicular basalt was recovered from a Phase 1 surface in Area O. This object is slightly conical with a truncated top, and was apparently made from a basalt cobble that was worn down smoothly on all sides. The primary wear of this object is probably the result of grinding. Such objects were used for crushing and grinding temper, seeds or pigment, but they also may have been used for polishing stone vessels (abraders) or for working hides (rubbers), as has been observed ethnographically (Adams 1989).

Stone Vessels (Fig. 12:5, 6).— A fragment of a small bowl made of a soft stone (Fig. 12:5) was recovered from the debris upon a surface associated with Phase 3. The stone, probably chalkstone that underwent some burning, is of a dark gray color. The shallow bowl has a plain, tapering rim and a small rectangular ledge protruding from the edge of the rim.

A rim of a medium-sized, well-worked, non-vesicular basalt bowl with a rounded rim (Fig. 12:6; Rowan 1998: Type R2b) was found on a surface associated with Phase 3 (general site Stratum III) in Area O. This form is deemed typical of EB I (Rowan 2003:192).

THE FLINT ASSEMBLAGE FROM AREAS O AND N
Hamoudi Khalaily

The flint assemblage from Area O was processed alongside that from Area N, located approximately 60 m to its east (see Golani 2006). Together, the flint assemblages produced a total of 742 flint artifacts, all of which originated from Early Bronze Age occupation phases in both areas, representing a relatively 'clean' EB IB–EB II assemblage. Although all the artifacts originated from Early Bronze Age strata, a few Neolithic tools were also noticed sporadically within the assemblage, suggesting the presence of an earlier occupation in this area or its immediate vicinity (see also Fantalkin 2000; Khalaily 2003). The low frequency of chips and chunks in the present assemblage (26.6%; Table 5) is probably due to the fact that systematic sieving during the excavation was not carried out. Nonetheless, the main characteristic of this assemblage is the frequent presence of blades produced by Canaanean technology, which is a hallmark of the Early Bronze Age. Canaanean flint-knapping technology is prismatic and was intended primarily for blade production, primarily sickle and retouched blades.

Raw Materials

The raw material from Areas N and O is generally restricted to fine-grained Eocene flint, although coarse-grained blades are also found.

Table 5. Waste, Core and Tool Frequencies of Areas N and O

	Type	N	%
Debitage	Primary Elements	58	14.8
	Flakes	292	74.3
	Blades	31	7.9
	Bladelets	9	2.3
	CTEs	2	0.5
	Spalls	1	0.3
Subtotal		*393*	*100.0*
Debris	Chips	163	76.9
	Chunks	49	23.1
Subtotal		*212*	*100.0*
Assemblage	Tools	95	12.8
	Debitage	414	55.8
	Cores	21	2.8
	Debris	212	26.6
Total		*742*	*100.0*

The source of this raw material could be Har Ḥaruvim in the Jezreel Valley, where numerous Canaanean cores were found (Meyerhof 1960; Rosen 1983; Shimelmitz, Barkai and Gopher 2000). The cores are generally grayish beige in color, and are comparable to most Canaanean blades found in the region of the Jezreel Valley and the lower western Galilee. Other flint artifacts, generally small and light brown in color, probably derived from small nodules that originated in Naḥal Shofeṭ, located near the Jezreel Valley.

No Canaanean cores were found within the present assemblage, but 25 non-Canaanean cores from local raw material were encountered. Most of these were intensively exploited and discarded as exhausted cores (Fig. 13:3). A few are either single platform (Fig. 13:1, 2) or alternate platform cores, but the vast majority was employed for flake utilization.

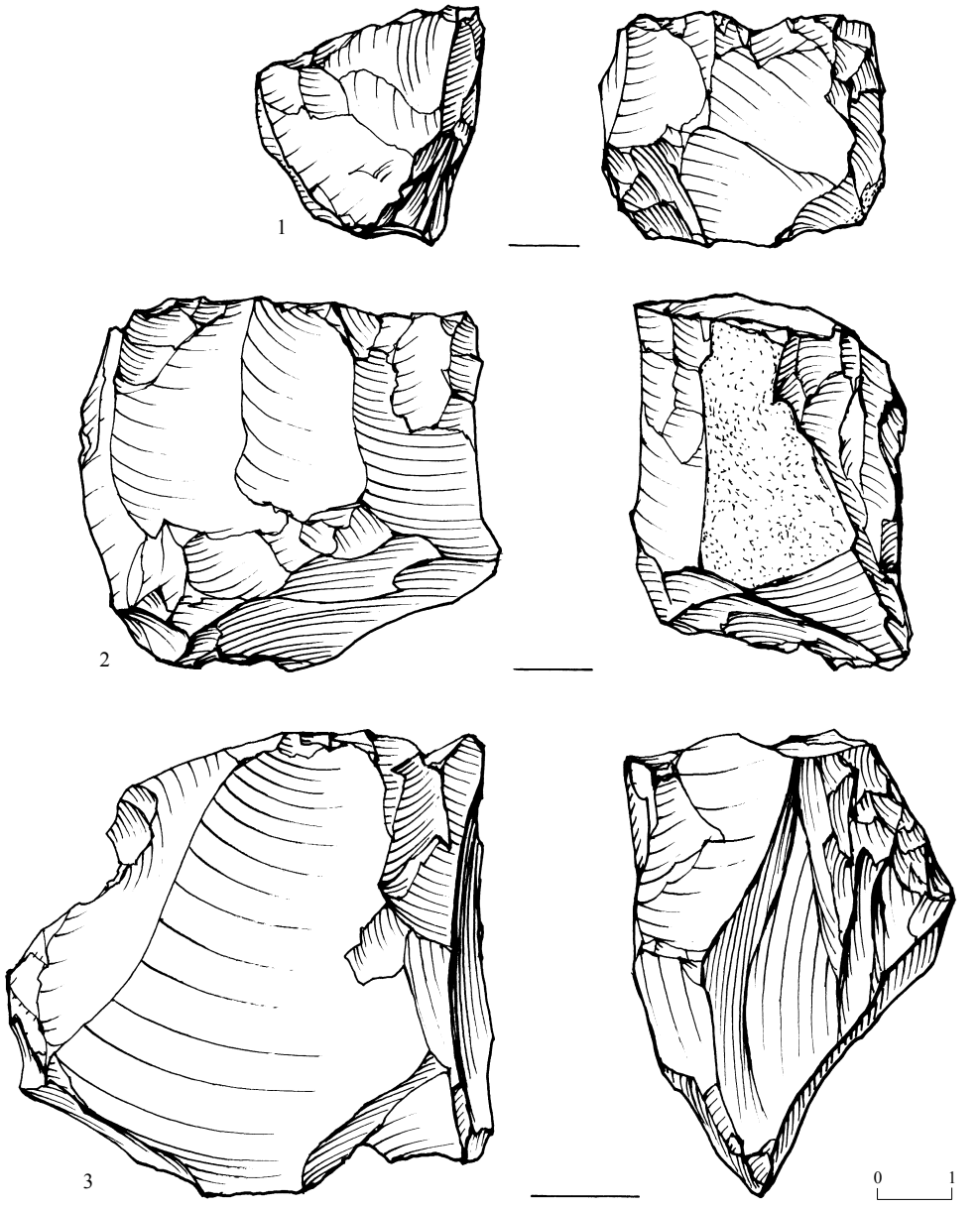


Fig. 13. Non-Canaanean flint cores: (1, 2) cores with single platform; (3) exhausted core.

Tools

The tools consist of 95 artifacts, all originating from the Early Bronze Age layers. Sixty-five items were ad hoc tools and include awls, denticulates and retouched flakes. Another 25 tools are formal, or *fossile directeur* types of Canaanean products: retouched blades and sickle blades. Four out of the five remaining tools typical of Pottery Neolithic flint industries are backed and truncated sickle blades.

Canaanean Retouched Blades (n = 4).— One blade is complete (Fig. 14:1) and three are broken (Fig. 14:2). The complete blade displays irregular retouch on both edges, while the broken blades are generally retouched on one edge only, except for one tool that has continuous retouch on one edge and a dorsal notch on the other.

Canaanean Sickle Blades (n = 21).— Most of the sickles are broken, missing one or both ends; only two are complete (Fig. 14:3). The section is usually trapezoidal. Two sickle blades display remains of cortex on their dorsal faces (e.g., Fig. 14:5). Gloss appears on one edge of ten sickle blades (Fig. 14:6) and eleven of them exhibit two working edges (Fig. 14:3–5). The working edge is frequently denticulated, or nibbled on the dorsal side. Retouch on the ventral side is less frequent.

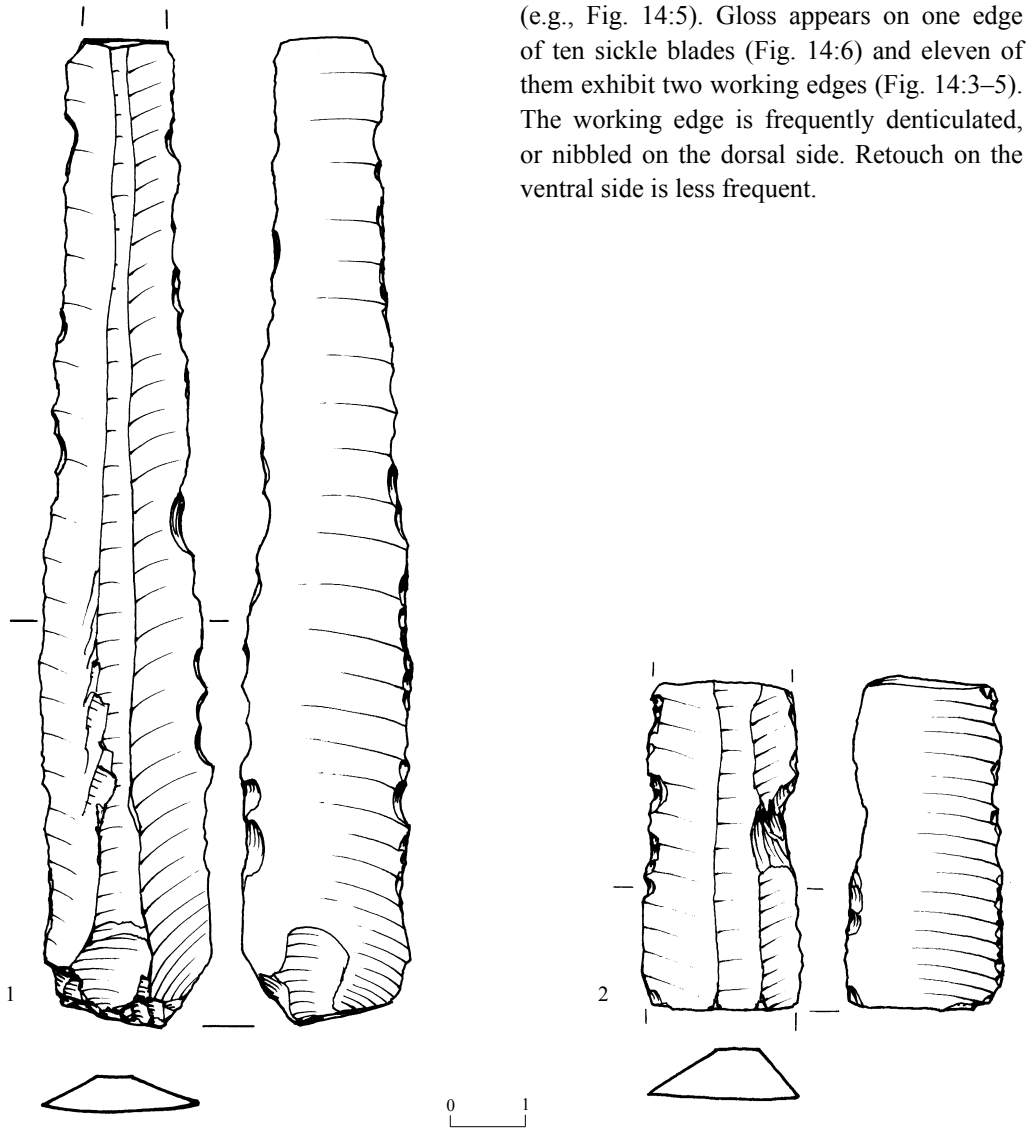


Fig. 14. Canaanean tools: (1, 2) retouched blades; (3–6) sickle blades.

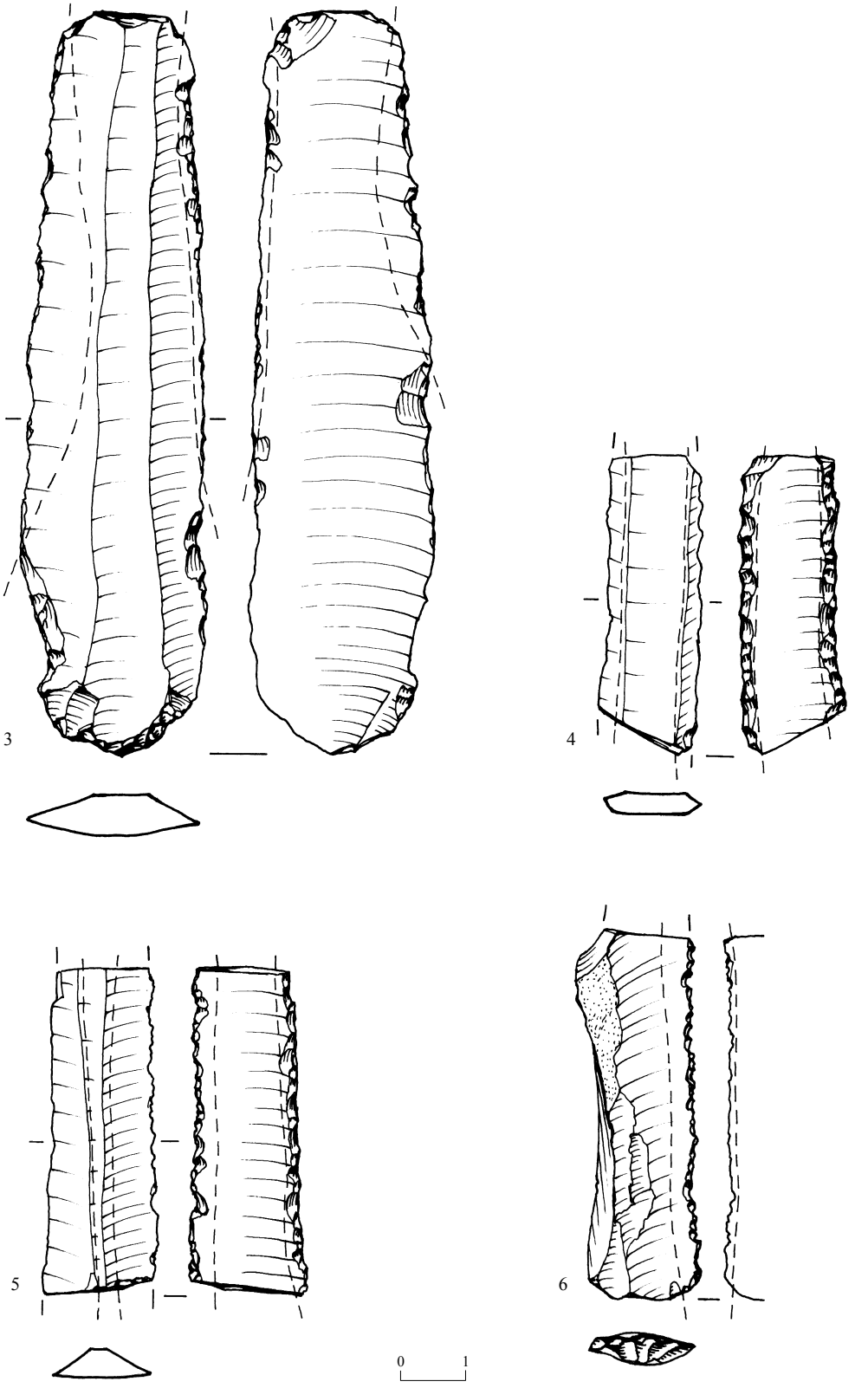


Fig. 14. (cont.)

Neolithic Tools.— Based on their shaping technique, five tools were identified as Neolithic artifacts. One is a ridged blade (Fig. 15:1) with limited retouch on its ventral surface. Two are sickle blades that were shaped on wide and short blanks, showing truncated ends and a denticulated working edge (Fig 15:2). This type of sickle blade is frequent in late Pottery Neolithic assemblages typical of the Wadi Rabah culture (Gopher 1989). The remaining two items in Fig. 15:3, 4 are ad hoc tools, a burin and a retouched blade, shaped on pinkish

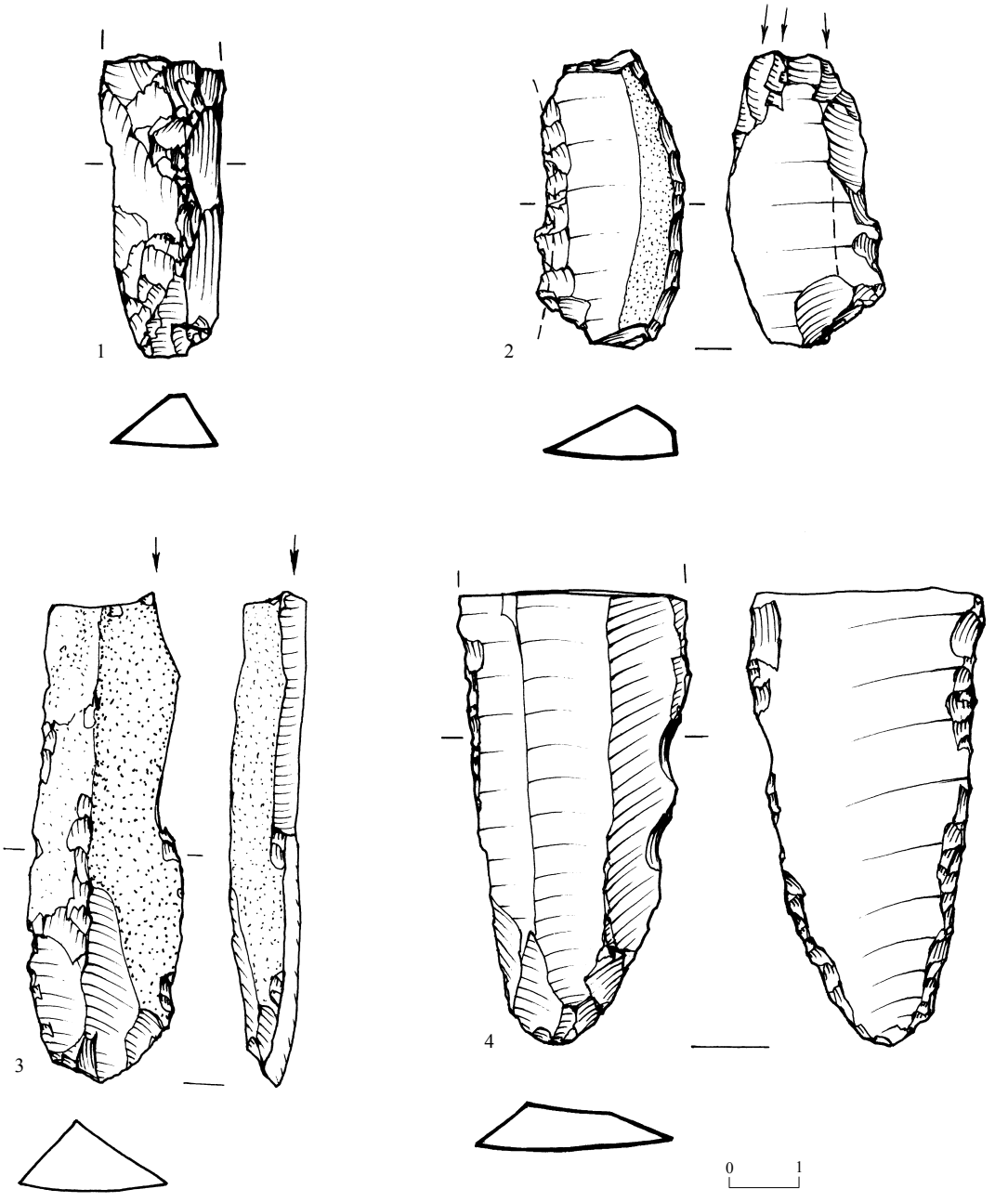


Fig. 15. Neolithic tools: (1) ridged blade; (2) sickle blade with denticulated working edge; (3) ad hoc burin; (4) ad hoc retouched blade.

flint that was in common use in the Neolithic period.

Discussion

Although the flint assemblage is relatively small, its significance is undoubtedly rooted in the relatively 'clean' Early Bronze Age contexts in which it was found. The majority of the flints were knapped from local raw materials, producing mostly flakes for ad hoc tools. The more 'formal' tools, however, are dominated by the Canaanean industry, a trademark of the Early Bronze Age, represented by long blanks, mostly blades. These blades apparently reached the site as final products, since no Canaanean by-products within the waste material and no Canaanean cores were noted. This indicates that these distinct blades were produced far from the site (Rosen 1983) and brought to it through an exchange system (Milevski 2005). Similar assemblages were reported from various other excavated areas at Qiryat Ata (Bankirer 2003). The few non-Canaanean tools recovered are typical of the Late Pottery Neolithic period (Wadi Rabah culture). Wadi Rabah-related flint material has also been reported from several other excavation areas within the site (Fantalkin 2000; Bankirer 2003; Khalaily 2003:221). Since no clear Neolithic occupation has yet been identified at Qiryat Ata (but see Fantalkin 2000), it appears that these items are intrusive.

THE SHELLS

Henk K. Mienis

The excavations in Area O yielded at least eleven specimens of molluscs belonging to eight different species (Table 6). Most of the shells could be readily identified; however, some of the highly fragmented material required comparison with specimens of recent origin, preserved in the National Mollusc Collection of the Hebrew University of Jerusalem.

The shells recovered during the excavation of Area O at Qiryat Ata originated from three different habitats:

a. the Mediterranean Sea: *Tonna galea*, *Bolinus brandaris*, *Stramonita haemastoma*, *Glycymeris glycymeris pilosa*, *Glycymeris insubrica* and *Cerastoderma glaucum*;

b. Local rivers (either Naḥal Na'aman to the north or Naḥal Qishon to the south of the site): *Unio mancus eucirrus*;

c. Local terrestrial habitats: *Helix engaddensis.*

The chronological distribution of the shells of the archaeomalacological material is presented in Table 7.

Discussion.— The freshwater mussels *Unio mancus eucirrus* must have been brought to the site from either Naḥal Na'aman or Naḥal Qishon. In principal, this is an edible species; however, the number of shell remains is very small and does not necessarily support the assumption that they were brought to the site for food.

Most of the marine shells from the Mediterranean Sea are in a poor state of preservation and most likely, they had been collected on the beach in the form of empty shells. Although *Cerastoderma glaucum* is an edible species, the recovery of a single complete valve gives no information about its purpose at the site. Only the single valve of *Glycymeris insubrica* showed some form of manipulation. The manmade hole in the umbo provides clear evidence that it had been used most probably as a shell pendant.

The marine shells mentioned by Reese (2003) in his report concerning the shells found in Areas A, C, D, E and F at Qiryat Ata were similar to those recovered in Area O.[5] The specimens of *Unio terminalis* mentioned in Reese (2003) are more likely to belong at least in part to the related species *Unio mancus eucirrus.*

Table 6. Area O, Overview of Mollusc Specimens and Species

Family	Genus species	Description	Square	Locus	Basket
Gastropoda					
Tonnida	*Tonna galea* (Linnaeus, 1758)	Small fragment of body-whorl	865	8204	D1
Muricidae	*Bolinus brandaris* (Linnaeus, 1758)	Large fragment of the siphonal canal of a very large specimen	851	8141	E3
	Stramonita haemastoma (Linnaeus, 1767) forma *consul* (Gmelin, 1791)	Fragment of the body- and penultimate whorl; large hole in the top (the forma *consul* differs from the typical form in its very broad shell and the development of huge knobs on the shoulder)	811	8134	E1
Helicidae	*Helix engaddensis* (Bourguignat, 1852)	Three tiny fragments of the body-whorl; considered to belong to a single specimen	848	8122	C1
Bivalvia					
Glycymeridae	*Glycymeris glycymeris pilosa* (Linnaeus, 1767)	One valve	864	8202	C1/D2
	Glycymeris insubrica (Brocchi, 1814)	One valve with a manmade hole in the umbo	860	8181	C1/D1
Unionidae	*Unio mancus eucirrus* (Bourguignat, 1857)	One tiny fragment	848	8122	C1
		One tiny fragment of the ventral margin	848	8126	C1
		Two fragments of the ventral margin of two different specimens	856	8222	E1
Cardiida	*Cerastoderma glaucum* (Poiret, 1789)	One valve	848	8126	C1

Table 7. Chronological Distribution of the Shells

Species/Stratigraphy	EB IB	Late EB IB	EB II(?)	Unknown
Tonna galea	1	-	-	-
Bolinus brandaris	-	-	-	1
Stramonita haemastoma	-	1	-	-
Helix engaddensis	-	1	-	-
Glycymeris glycymeris pilosa	-	1	-	-
Glycymeris insubrica	-	-	1	-
Unio mancus eucirrus	2	2	-	-
Cerastoderma glaucum	-	1	-	-
Total	3	6	1	1

SUMMARY AND CONCLUSIONS

The excavations in Area O produced important additional information to the growing body of knowledge concerning the Early Bronze Age site of Qiryat Ata. The three stratigraphic phases identified in this area coincide with those first identified in Area A (Golani 2003) and later used as the general site's stratigraphic sequence (III–I), upon which the history of the site hinges. The finds in Area O enlarge the empirical database of the Early Bronze Age ceramic assemblage at Qiryat Ata, and help to better and more accurately define the nature of EB IB and EB II pottery assemblages in northern Israel. The cylinder seal impressions are a welcome addition to the growing corpus of seal impressions from northern Canaan during EB IB and EB II. The flint assemblage represents a typical repertoire of tools and flakes of the Early Bronze Age. The faunal assemblage (see Horwitz, this volume) enlarges the existing database and correlates well with the conclusions drawn so far concerning animal exploitation at the site. In addition, the excavations in Area O help clarify the extent and nature of the settlement during its transition from an unfortified village in Stratum III to a fortified town in Stratum I, and highlight changes in the material culture during the urbanization process (cf. Faust and Golani 2008). The exposure of a defensive wall disperses speculation as to whether or not such a large and densely built settlement was fortified, proving that the site was indeed fortified, but only in EB II. It is hoped that future excavations at the site may serve to uncover more of this impressive and important feature.

APPENDIX 1: LIST

Locus	Square	Description	Phase
800	F1	Topsoil and building debris	-
801	E1	Topsoil and building debris	-
802	E2	Topsoil and building debris	-
803	F2	Topsoil and building debris	-
804	E2	Below L802; debris upon W80	-
805	E2	Below L802; debris upon glacis	1
806	E1	Below L801; surface and surface make-up north of W80	1
807	F1	Below L800; debris above surface associated with W81 and W83	1?
808	E2	Below L805; debris upon surface and surface make-up	3
809	F1	Below L807; debris upon surface and surface make-up associated with W83 and W81	1
810	F1	Below L809; combined into L809	1
811	E1	Below L806; debris upon surface and surface make-up; equals L829	2
812	F2	Below L803; debris and stone rubble atop W80	-
813	E2	Below L808; debris upon bedrock	3?
814	F1	Below L810; debris upon surface and surface make-up south of W84	2
815	D2	Topsoil and building debris	-
816	F1	Below L810; debris upon surface and surface make-up north of W84	2
817	F2	Below L812; debris and stone rubble	1?
818	E1	Below L811; mudbrick debris upon surface; equals L856	3

APPENDIX 1 (cont.)

Locus	Square	Description	Phase
819	F1	Below L816; debris upon surface and surface make-up north of W84	3
820	D1	Topsoil and building debris	-
821	F1	Below L814; debris upon surface and surface make-up south of W84	3
822a	F2	Below L817; fill at base of W80	1
822b	F2	Below L822a; debris upon surface(?) of Phase 3	3?
823	D2	Below L815; debris upon glacis	1
824	D2	Below L823; dismantlement of glacis	1
825	D2	Below L824; debris upon and within glacis	1
826	F2	Below L822b; debris upon bedrock	?
827	D1	Below L820; surface and surface make-up north of W80	1
828	D2	Below L825; combined into L825	1
829	D1	Below L827; debris upon surface SE of W86; equals L811	2
830	D1	Below L829; combined into L865	3
831	D1	Below L829; combined into L865	3
832	D1	Below L831; combined into L865	3
833	D1	Below L830; combined into L865	3
834	C1	Modern debris	-
835	D3	Modern debris	-
836	E3	Modern debris	-
837	F3	Modern debris	-
838	F4	Modern debris	-
839	F3	Below L837; topsoil below modern debris	-
840	E3	Below L836; topsoil below modern debris	-
841	D3	Below L835; topsoil below modern debris	-
842	C1	Below L834; topsoil upon W80	-
843	E3	Below L840; debris below topsoil	-
844	D3	Below L841; debris upon glacis	1
845	F4	Below L838; topsoil below modern debris	-
846	C1	Below L842; surface and surface make-up north of W80	1
847	F3	Below L839; debris upon glacis	1
848	C1	Below L846; debris upon floor SW of W86; equals L862	2
849	E3	Below L843; debris upon glacis	1
850	C1	Below L846; debris atop W86	1, 2
851	E3	Below L849; alluvium upon bedrock	-
852	C1/D1	Topsoil removal	-
853	C1	Below L842; debris south of W80	1?
854	C1	Below L852; debris upon floor and floor make-up between W87 and W88	1
855	D1	Below L852; debris upon floor and floor make-up east of W88	1
856	E1	Below L811, L818; surface and surface make-up; equals L865	3
857	D1	Below L855; fill below floor	1, 2
858	E1	Below L856; debris upon bedrock	3

APPENDIX 1 (cont.)

Locus	Square	Description	Phase
859	C1	Below L854; fill below floor	1, 2
860	C1/D1	Below L852; dismantlement of W87 and W88	1?
861	D3	Below L844; section through stone glacis	1
862	C1	Below L842, L853; debris upon surface; equals L848	2
863	D3	Below L861; alluvial soil upon bedrock	-
864	C1/D1	Below L857, L859; destruction debris within curve of W86	2
865	D1	Below L829; debris upon surface; equals L856	3
866	E2/F2	Below L812; dismantlement of W80	1
867	E2/F2	Below L866; uncovering top of W89	1–3
868	F2	Below L866; debris upon surface next to W89	3

NOTES

[1] The excavation (Permit No. A-3807) was carried out in February 2003 and in June–July of the same year. The project was financed by the development contractor, Yosef Boblil, and was directed by Amir Golani on behalf of the Israel Antiquities Authority with the assistance of Vadim Essman and Viatcheslav Pirsky (surveying), Tsila Sagiv (photography), Zach Horowitz, Sigal Golan, Amani Abu Hamid (archaeologists, Central District), Carmen Hersch, Irena Lidsky-Reznikov and Leonid Zeiger (artifact drawing), Clara Amit (artifact photography), Irena Berin (draughtsmanship) and Rochi Liphshitz (local antiquities trustee).

[2] For the final report concerning Areas A–G, see Golani 2003. Area H was excavated by Eyal Baruch, Shmuel Givon and David Inbar, on behalf of Bar-Ilan University (Baruch, Inbar and Uziel 2007). Area I was excavated by Shlomo Surkis, on behalf of the University of Haifa. Area J was excavated by Yoav Lehrer, on behalf of the IAA, and Area K was excavated by Yohanan Gottlieb, on behalf of the University of Haifa. All these excavations await publication. Area L was excavated by Alexander Fantalkin, on behalf of Tel Aviv University (Fantalkin 2000). Area M was excavated by Amani Abu-Hamid, of the Israel Antiquities Authority, and Area N was excavated by the author. The latter two areas also await publication. For a preliminary report on the excavations in Areas N and O, see Golani 2006. Area P was excavated by Amani Abu Hamid (2010), Areas Q and R were excavated by Murad Tabar (2010), also of the Israel Antiquities Authority.

[3] The two EB I impressions published by Braun (2004), Cat. Nos. 2 and 3, were previously unpublished, whereas his Cat. Nos. 4 and 10 are re-publications of Greenberg 2003: Nos. 1 and 2.

[4] Attributions to the Metallic Ware group should be based on the fabric, unique to this ware, rather than on considerations of hardness, color etc., which are often affected by post-depositional processes.

[5] Differences in nomenclature are due to the use of outdated names by Reese.

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