

Fig. 2.11. An almost complete storage jar (L339, field no. 3204/1) found in situ *in the possible potters' workshop.*



Fig. 2.12. The potters' kiln (L378) (looking southeast).

A pottery-rich surface (L310, 339 and 375) was exposed north and east of Building B2. The pottery of this surface is MB I and MB II in date. It is comprised of sherds of bowls, kraters, cooking pots, juglets, jugs, storage jars, pithoi and stands. The impression is that, like its neighbor, Building B2 was constructed of sun-dried mud bricks on a stone wall base. Unfortunately, damage to the building made further clarification of the architecture impossible. The wall foundations and the paving of this building were found very close to the surface and many horizontal and vertical striations on the limestone walls and paved surfaces of both buildings B1 and B2 testify to plow damage.

As in Building B1, the mixed nature of findings suggests that the building was founded during the MB period and re-used in the LB, although the



Fig. 2.13. The vertical clay flues at the edge of the kiln (looking north).

area adjacent to Building B2 to the north was rich in MB I and MB II pottery, but held very little LB material, suggesting that the LB re-use was less extensive than the MB occupation. In the MB this was an integral part of the building, perhaps serving as a courtyard. Another possibility is that during the LB re-use of the building the new inhabitants threw MB rubbish outside the building.

Wall (WA176): This 10.0m-long stone wall was exposed east of Building B2. The wall ran southwest-northeast, was 0.3m wide, survived to one-two courses, and was built of small stones. The wall curved slightly south towards its east end, following the area's contours, and its east end abutted the corner of a building of which only the southwest corner survived (WB1920, WB1921).

Interpreted as a boundary wall, WA176 is understood as defining the southern limit of the abovementioned pottery workshop. An additional 2.0m section of wall (WB177) found ca. 4.0m north of WA176 is believed to demarcate the workshop's northern limit. The walls resembled each other in their general features. The quantitative richness of the pottery in the L339 area supplements the evidence for this being a pottery manufacturing area. The kiln found here is discussed below.

Potters' Kiln (L378): Immediately north of WA176 the remains of a probable pottery workshop were uncovered. Within this area was a pit-like feature



Fig. 2.14. Detail of the clay flues (looking east).



Fig. 2.15. The clay flues' lower openings, close to the bottom of the kiln.

roughly circular in plan (Figs. 2.12-2.15). This was undoubtedly a potters' kiln. Its diameter was ca. 2.0m. Outside the kiln's cut, a number of flue holes made of clay were visible, their rims facing upward (Figs. 2.12-2.14). These flue holes had diameters of ca. 0.1m and were spaced 0.1-0.3m apart. Beside the north cut of the kiln was a dressed limestone block ($0.5 \times 0.35 \times 0.1m$) and two stone walls (Fig. 2.12). Fragments of a badly-damaged ceramic floor were found both close to the flue holes and also inside the kiln.

Upon excavation, the kiln was found to have been dug into the sterile soil to a depth of ca. 1.2m from the surface (and 0.5m from the contemporaneous ceramic floor level). The fill was very different from the natural soil in both color and texture. It contained many sherds (most of them dated to the MB period, but some—probably intrusive—were LB sherds), as well as slag, ash, burnt clay, a chalice or stand fragment and a ceramic lid.

There were two circular apertures close to the bottom of the kiln's northwest side (Fig. 2.15). The vertical-facing flues at the edge of the kiln extended down to link with these two openings near the bottom of the kiln. These pipes supplied the necessary air flow, and the lid may have served to cover the tops of the pipes and helped to control the air flow itself, aided perhaps by the dressed limestone block. The two stone walls built against the kiln's northwest side gave structural support to the flues. In the chamber surrounding the kiln were found the remains of slag (Fig. 2.16), ash, burnt clay, and potsherds. It seems that the kiln was of the vertical type found at many MB sites in the coastal plain region (Wood 1990: 26-33; cf. Singer-Avitz and Levy 1992; Kletter and Gorzalczany 2001).

A continuation of this pottery workshop area may have been uncovered in adjacent squares previously excavated by the IAA (Dagot 2004; Dagan *et al.* 2009).

Squares A19–22, B19–22: These parallel square rows were excavated east of the workshop complex. They were bordered to the north by the five IAA test squares (C30-34) and to the south by the southern excavation limit and a cypress boulevard. In these squares no architecture was found. A surface rich in potsherds and ash was exposed at a depth of ca. 0.6m below ground level (L365–7). This gray-brown surface was 0.2-0.4m thick and upon full exposure was shown to lie on the sterile subsoil at an average depth of 1.0m below ground level. In all squares this surface was shown to follow the natural slope of the ground from southwest down to northeast (this slope probably indicates the former existence of a small tributary to the east of the excavation area, evidenced also by the white pebbles found at the bottom and east section of Square A23 (L414). Sterile subsoil was reached in the bottom of all test sections dug in these squares.

Wall (WD1715): This wall was exposed very close to the surface at the centre of Squares C17 and

D17. Vestiges of the Mandate-period road—which probably destroyed most ancient remains closer to the surface—were removed from the top of the wall. The extant length of WD1715 was ca. 3.0m, surviving only one course high. The wall's thickness was 0.8m and it was built of large stones placed two wide. From test probes cut through its west and east ends it is clear that this wall had a single construction phase, set directly on a soil matrix devoid of cultural material. At the base of the wall's west end (L391) a small dipper juglet (field no. 3291/1) was found *in situ* (Fig. 2.17). Perhaps this was a foundation deposit. This wide wall could have been part of a two-storey building dated to the MB and the LB and was probably part of a



Fig. 2.16. Clay lumps and slag from the pottery kiln and adjacent areas.

structure that continued north, under the present Route 3, severely damaged by construction of the Mandate-period road. Most of the sherds were of storage vessels. An MB I building with similar walls—probably a public building—was exposed in Area A by the Israeli Institute of Archaeology expedition (Paz and Nativ, in preparation).

Installation B3: The remains of a small rectangular installation were found in Squares C19 and D19 (Fig. 2.18), between the IAA's southern probes and Route 3. The installation measured 2.8 x 1.8m and was built along a north-south axis. Its walls were constructed of large and medium-sized stones placed two wide. The walls' preserved height was one course, 0.2–0.3m above the contemporary surface. As in other structures in Area Bb, the upper walls of the Installation B3 were probably constructed of sun-dried mud bricks which did not survive (the flat wall tops suggest as much). The structure may have been accessed from the west side, where almost no wall was constructed (though this may simply be a question of preservation). Installation B3's interior was paved with pebbles and cobbles, a surface that survived mostly intact. It is possible that this installation was related to the nearby pottery workshop, perhaps functioning as a sheltered location for the gradual controlled drying of ceramic vessels prior to firing.



Fig. 2.17. A complete dipper juglet (L391, B3291/1) found in situ *under the level of Wall WD1715.*



Fig. 2.18. Installation B3 (looking south).

A badly-damaged wall section (WD1918) was exposed north of and parallel to Installation B3. In its construction this wall resembles the abovementioned WA176 in Squares A17–18. It is possible that this wall demarcated the northern limit of the industrial area which incorporated the pottery workshop. WD1918 most likely continued northeast under the existing road (Route 3).

Waste Pit (L410, L415): In two deep probe sections within adjacent Squares D20 and D21 a pit was found containing large quantities of potsherds, ash, burnt stones, burnt pebbles, pottery slag and non-descript burnt ceramic lumps (Fig. 2.19). The pit's diameter was ca. 4.0m and its depth ca. 2.0m. The northern half of the pit was under Route 3 and therefore could not be excavated. In section the various fills could be seen to slope down toward the center of the pit. Many of the sherds deposited in this pit were body parts of large storage jars, but also sherds of bowls, a votive chalice, vats, stands, kraters, cooking pots, juglets and jugs. In the vast majority of cases the original vessels could not be reconstructed due to a dearth of rim and base fragments. However, enough indicative sherds were recovered to date this waste pit to the MB I and II.

Southwest of this waste pit, in a section excavated in the southeast corner of Square C19, we found a deposit moderately rich in sherds and ash immediately overlying subsoil (L418, ca. 2.0m deep). This context was thinner in the north (0.2m) than in the south (0.5m), and sloped down towards the south, in keeping with the natural topography of the area (an ancient tributary flowed from west to east immediately to the south, where the IAA test pits were dug). This context may have been related to the waste pit, to Installation B3 and to the pottery production in the area.

Squares C21, D21: Above Pit 415, just below the surface in Square D21 and extending south into Square C21 was a 0.4m-thick layer of gray soil rich in pottery and burnt ceramic fragments (L411). In some places this layer overlay a light-brown alluvial soil (L403) which was stratigraphically above the



Fig. 2.19. A section of the L415 waste pit, showing potsherds in the fill.



Fig. 2.20. Walls WC211 and WC212 in Square C21.

L415 waste pit. A cluster of small and mediumsized stones (L393) was spread over part of L411. This pile of stones was investigated and found to contain no architectural remains.

In the southeast corners of C21 and D21 deep probes were dug. In C21, at a depth of 2.2m below the surface, portions of two small walls were exposed (WC211, WC212, L403; Fig. 2.20). The north wall (WC211) ran northeast–southwest, and was preserved to a length of ca. 1.5m, width of 0.4m (one course) and height of ca. 1.0m. This wall was built of large and medium-sized stones and was preserved to an average height of four courses. Ca. 1.0m south of this wall a parallel wall section was exposed (WC212). This wall was built of large stones and was preserved to a length of ca.



Fig. 2.21. In right center, the cluster of large stones at the base of the C23 section, with WB2323 and WC2325 to the left (looking west).



Fig. 2.22. Area Bb (looking west), with the five test squares excavated by Torga (IAA) in the center.

1.0m and a height of ca. 0.4m. These walls were probably small dams of a sort, for collecting clayish alluvium from this slope for pottery manufacturing purposes. The sherds found in L403 are of bowls, krater, pithoi and storage jars, dated to the MB I or MB II.

Squares C22, D22: In the northwest corner of Square D22 a deep probe was excavated (L416). This 1.5m-deep probe cut into a gray soil mixed with many sherds, none of them indicative. An additional deep probe (L413) was excavated in C22. This probe, 2.0m deep, reached a light brown clayish soil. Between the surface and this deep, clayish layer was a ca. 1.5m-thick gray soil (L412). At the top of this layer was found a concentration of burnt

material fragments mixed into the soil. However, in these squares no architectural remains were found. The artifacts found in these two squares included sherds of bowls, a stand, kraters, cooking pots, jugs and storage jars, all dated to the MB I, MB II (less) and LB I periods.

Squares C23, D23: These two squares were located at the eastern end of Area B. In a deep probe (L402) dug close to the southeast corner of C23 a number of large stones were found at a depth of ca. 2.3m. As a result it was decided to expand this probe. The soil in these squares was gray, friable and contained large amounts of sherds (among them sherds of bowls, a cooking pot, jugs, storage jars and a ceramic slag, dated to the MB and LB periods). This layer was ca. 2.0m thick and sat on a sterile clavish soil with poorly-sorted white lime fragment inclusions. This sterile layer sloped slightly down from north to south. It appears that the abovementioned cluster of large stones found on top of this sterile layer-visible on the right in Figure 2.21—had no architectural connection with walls WC2322, WC2325 and WB2323 immediately to the south (discussed below).

Square B23: This square was located east of the test probe dug in this area by the IAA (Fig. 2.23). Portions of two or three walls were exposed here at a depth of ca. 1.0m below the surface. The east



Fig. 2.23. WB2323 and WC2325, the foundations of an MB building's corner, with the doorpost socket stone in the foreground; WB2322 is in the background (looking east).

wall (WB2322) was ca. 1.0m long and built of small stones roughly two courses wide. The west wall section (WC2325, WB2323) included the northeast corner of a building (Figs. 2.21, 2.23). These walls appear to have been built mostly of sun-dried bricks set on (the surviving) stone foundations. In the building, close to WB2323 was found a flat stone with a conical perforation at its centre (Fig. 2.23). This stone was probably used as a socket stone for a wooden door hinge (inward-opening). The pottery that was found between walls WB2322, WB2323 and WC2325 was comprised of sherds of bowls, a votive bowl, a chalice, a krater, cooking pots, jugs, storage jars and a clay stopper, dated mostly to the MB I and II periods, but some to the LB. In addition, the rim of a Roman juglet was also found close to the surface.

Square A23: This square was located near the southeast corner of the excavation area. In a deep probe dug in the northeast corner of the square (L414) a sterile soil layer was reached at a depth of ca. 1.7m below the surface. A layer of white pebbles was exposed in the eastern section of the square. Close to the southwest corner of the deep probe a pit 1.0m in diameter was discovered, in which were found a number of stones, a few potsherds (non-indicative) and a flint sickle blade.

Summary

The buildings and features found in Area B represent the western limit or outskirts of a larger settlement at Yesodot. The north side was cut by Route 3 and the Mandate-period road. To the east, in Area A, the site continues on the other side of an ancient tributary for which we found evidence. To the south the site extends under a grapefruit grove, also beyond the limit of our excavation.

The Area B buildings are of a 'courtyard house' type common in the MB and LB (Ben-Dov 1992). The stratigraphy and artifacts did not unequivocally show which buildings and occupation surfaces belonged to which phase of the ancient settlement.

Within Area Bb there seems to have been something of an 'industrial area' for pottery manufacturing. Here a pottery workshop (L379) and kiln (L378) were unearthed, as well as associated features such as buildings (Installation B3), waste pits (L415), and possible dams for collecting clay alluvium (L403). Unfortunately the five test squares excavated by the IAA (not published)—running through the center of this 'industrial area' truncated the area's strata and damaged several structures and features.

It appears that the ancient tributary adjacent to the eastern end of Area B was useful for this local industry. Near the banks of the stream much pottery manufacturing waste was deposited (L415). The pottery workshop was built in this area in order to easily collect alluvial clay. This location was also on the periphery of the settlement, sparing it from kiln smoke and other waste.

References

- Ben-Dov, M. 1992. Middle and Late Bronze Age dwellings. In: Kempinski, A. and Reich, R. (eds.). *The Architecture* of Ancient Israel. Jerusalem. Pp. 99-104.
- Dagan, Y., Barda, L. and Golan, S. 2009. Khirbat Um Kalkha: Survey of Highway 3. Hadashot Arkheologiyot 121.
- http://www.hadashot-esi.org.il/report_detail_eng. asp?id=1221&mag_id=115)
- Dagot, A. 2004. Khirbat Umm Kalkha. *Hadashot Arkheologiyot* 116. http://www.hadashot-esi.org.il/report_detail_eng. asp?id=33&mag_id=108
- Kletter, R. and Gorzalczany, A. 2001. A Middle Bronze Age II Type of Pottery Kiln from the Coastal Plain of Israel. *Levant* 33: 95-104.
- Paz, I. and Nativ, A., in preparation. *Khirbet Um-Kalha: A Neolithic, Chalcolithic and Middle Bronze Settlement in the Lower Shephela, Israel* (working title). (Salvage Excavation Reports). Tel Aviv.
- Singer-Avitz, L. and Levy, Y. 1992. An MB IIA kiln at the Nahal Soreq site. '*Atiqot* 21: 9-17 (Hebrew), 174 (English summary).
- Wood, B.G. 1990. *The Sociology of Pottery in Ancient Palestine*. Sheffield.