

## MARJ RABBA

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Investigations at Marj Rabba, the first phase of the Galilee Prehistory Project (GPP), focus on two broad research themes: the definition and characterization of Galilean sites during the fifth to early fourth millennia BC, and the role of this site and region within the poorly understood late prehistoric sequence from the Late Neolithic to Chalcolithic transition in the southern Levant (fig. 1). Objectives of this project were to establish the chronological relationship of this site, investigate the material culture for comparison to other sites and regions, and provide new insights into the subsistence economy of this formative era. Ultimately, we wish to explore life in the Galilee during a period that witnesses the first evidence for the development of copper metallurgy, dramatic new burial practices, and rich iconographic elaboration in material culture.

The third field season of excavations was conducted from July 15 to August 18, 2011. After three seasons of excavation there is an emerging picture of a substantial agricultural village with connections to nearby regions, yet sharply contrasting with contemporaneous sites to the south in the northern Negev and Jordan Valley. Although the areal extent of our excavations is smaller than those of the large Negev sites, the difference in material culture suggests a relatively self-sufficient village of agro-pastoralists with a mixed farming economy and only limited exchange beyond the immediate hills of the Galilee.

The 2011 season had four main objectives:

1. Expansion of our excavated squares to expose broader areas that might provide a coherent architectural plan.
2. Intensive pedestrian survey to determine the site limits and to identify any concentrations of Chalcolithic material culture.
3. Construction of a topographic map of the site and immediate area.
4. Geophysical survey of selected areas of the site.

### EXCAVATIONS

Our excavations concentrated on three areas. In one area, AA, work continued in the area previously excavated during our first two seasons (2009–2010), where a long east–west wall (w7) formed a northern boundary for a series of circular stone features. Immediately to the east, Area BB consists of two additional contiguous 5 x 5 meter squares opened during this season. The third area, CC, expanded on squares (L1 and M1) opened in 2009 and 2010.

Despite the somewhat limited exposure in each area, the different character of each hints at the possibility that functionally separate areas existed in the village. This is most apparent in Area AA, where the series of overlapping curvilinear stone structures are the latest preserved architectural traces at the village.

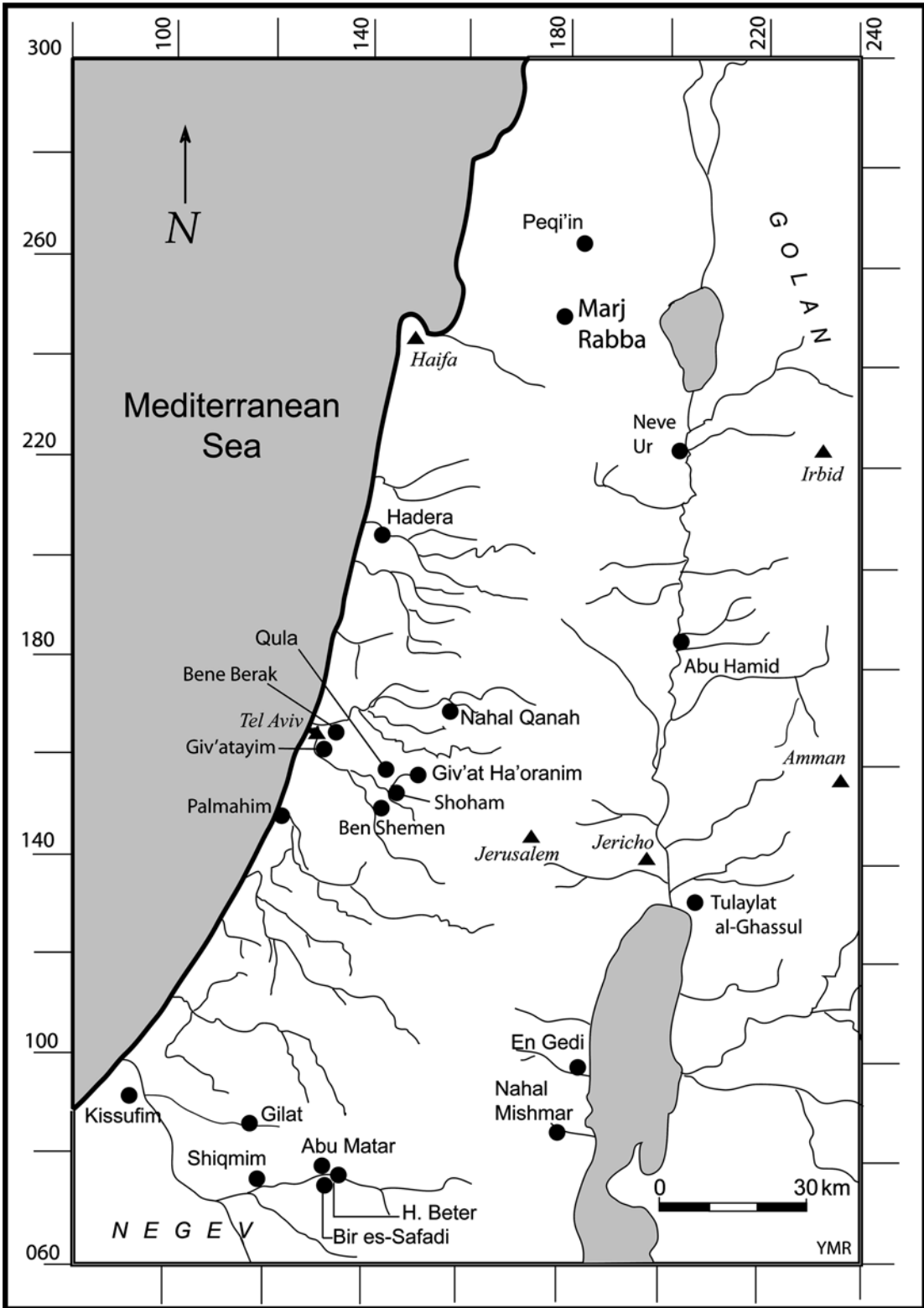


Figure 1. Map of the region, with Marj Rabba and other key Chalcolithic sites

## Area AA

The 2010 season ended with unanswered questions about the extent, function, and phasing of the architecture in Area AA (squares D1, D2, E1, E2, F1, and F2, comprising ca. 112.5 m<sup>2</sup>), so efforts were concentrated in this area in 2011. Our primary objective in Area AA was to remove the latest phases of architectural fragments, baulks between squares, and, if possible, to remove some of the fully excavated round features discovered in 2009–2010 in order to expose the earlier walls and floors below. Although removal of architectural fragments and baulks was successful, we also uncovered additional architecture and round stone features, slowing the excavation and hampering exposure of earlier strata. At least two additional seasons will be necessary in this area to expose the earlier walls, which we hope will provide building foundations and floors, answering some of the remaining questions regarding Marj Rabba.

Although the wet winter and minor disturbances by local quadrupeds contributed to a fair amount of slumping in the section and baulks of the open squares, the intact architecture was not appreciably damaged. After removal of sandbags and fencing, and careful cleaning, we removed baulks between squares C1/D1 and squares E1/F1.

Removal of the E1/F1 baulk clarified a confusing architectural detail from the 2010 season: wall w7 (the original east–west wall in D1) and w203 abut (figs. 2, 3), and w203 continues entirely through E1 into F1, where it terminates in an apparent doorway and then continues as w231. A fragmentary wall sat on top of 203. This wall fragment (w704), partly visible in the square profile, runs north–south mostly inside the E1/F1 baulk. This wall, apparently



Figure 2. Area AA, looking north. Circular stone features exposed in Squares D1–D2, E1–E2, and F2

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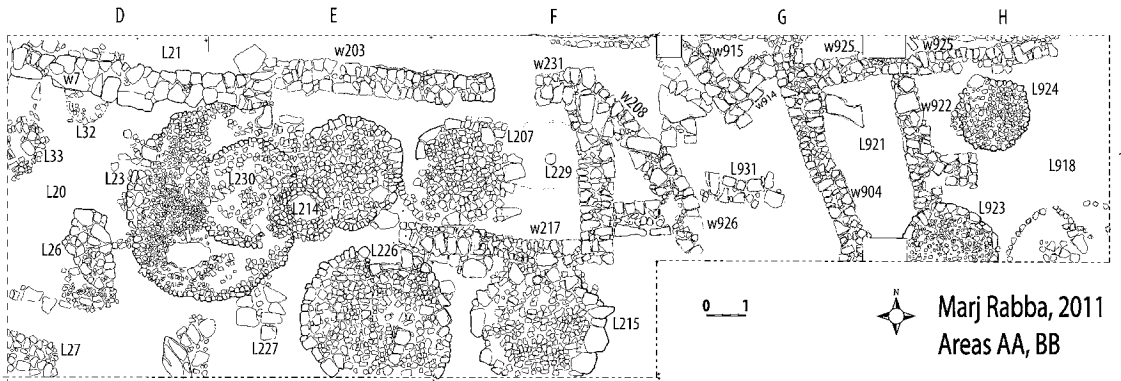


Figure 3. Plan map of Area AA (D, E, F) and Area BB (G, H)

contemporary with late wall remnant w201 (F1) and on top of the earlier room wall (w231), ran for approximately 5 meters south from the rubble on top of w203 and then terminated.

A dense layer of pebbles with pottery was sitting on top of a circular stone feature (L.207) in F1. Careful excavation revealed the continuation of this round feature as well as an earlier phase of the same construction. L.207 is a clearly defined round feature with, in some places, larger fieldstones forming the edge. Just below L.207 is a fragmentary circle of medium cobbles, which appears to be an earlier phase of the same structure. Removal of this baulk helped clarify the borders of several round features, particularly L.23, L.226, and L.215.

Reopening excavations in D1 (opened in 2009) included the removal of the fragmentary feature (L.26) in the southern half of the square. Constructed of large and medium cobbles, it was almost certainly damaged and incomplete; the function was impossible to determine. The extensively slumped baulk between squares D1 and C1, exposed for two years, was removed, exposing a dense cobble layer. Very similar to the cobble fill of other circular features, careful troweling revealed the possible edge of another circular stone feature (L.729). Constructed with only medium cobbles along the edge, this round feature is constructed more like L.23 than L.215.

### ***D1/2 Final Disposition 2011***

With the definition of another circular stone feature (L.729) and the clearance of fragmentary later architecture (L.26) from the south of D1, a relatively large open area was created between the large round feature in D1/E1 (L.23) and the new smaller round feature in C1/D1 (L.729). This area, when scraped a few centimeters lower than the final level of 2009, came down on a fragmentary floor level (L.723). This floor level appears contemporary with L.729 because broken pottery rests on the floor and against the edge of the feature. Where preserved, the floor consists of a whitish, silty, brick-like material, which is quite friable, possibly rich in phytoliths, and containing some flecked charcoal and flat pottery pieces. The floor is very patchy, and large sections were found in the center of the open area, other sections were recovered along the northern and southern edge of L.729. Additional patches were found in D2, south of L.23.

By the end of the season hints of earlier architecture in D2 appeared. In the west end of the square there is a fragment of either a wall or another round feature, which disappears into both the west and south sections (L.728). In addition, along the border between squares D1 and D2, the tops of three very large stones may form an earlier wall that appears parallel

to the main wall (w7/w203). Finally, just as the floor surface was being scraped for the last time, some wall-like stones showed up in the southeastern corner of D2. These stones appear to be the top of a wall that will run under round feature L.23 and line up with the jog in the main wall where wall 7 becomes wall 203.

### ***Removal of Circular Features***

One goal for the area during this season was to expose earlier strata and architecture, necessitating the removal of circular features in some cases. We began with the removal of L.230, the latest round feature in D1/E1. Constructed of small cobbles, this was incomplete and in some places could not be distinguished from the large circular feature L.23 below. This removal completed the exposure of the large stone circular feature (L.23), providing a clearer picture of that feature. In 2010, our efforts to define the eastern and northern border of L.23 were frustrated because of L.230 and the apparent disappearance of the small cobble edge of L.23 in the north. With L.230 removed, it became apparent that two small pits cut through L.23, accounting for patches of missing cobble fill. These pits (L.718 and L.719) appear to postdate L.23, but predate L.230.

With the removal of L.230, we hoped to see a closing wall emerging from the jog at the boundary of w7 and w203, but this remains obscured and will require removal of circular structures L.23 and L.225 for clarification. Since we knew that the circular feature L.207 had two construction phases and was sitting above the floor in the room (F1), we decided to section this feature and remove the southern half down to the earlier floor level. A section of the multi-phase installation in situ would allow us to collect a micromorphology sample to address the function of these enigmatic features. Additionally, we might find the closing wall to the main room in F1, which would run north-south between L.203 and L.217. Removal of the circular stone feature L.207 along an east-west axis (fig. 2) indicated that there was no intact cobble interior surface. The fill (L.725) below L.207 and above L.228 (the lower floor level) included multiple layers of burned and dark stained soils with charcoal flecked inclusions, alternating with the same light brown subsoil as elsewhere in the area. Samples for micromorphological analysis were taken.

One of the latest features in Area AA, L.214 is a stone-lined pit, which was first identified and excavated in 2010; excavation in the hole continued for approximately another 25 cm. Although cultural material was found with some regularity in the upper fill of this feature, the density of finds decreased in the last 10 cm, with almost no pottery, flint, or bone recovered as bedrock was reached. Approximately 1 m in diameter at the top, this pit narrows slightly toward the bedrock that forms the bottom, approximately 75 cm below the pit rim. Although there is no direct evidence this was probably a storage pit.

### ***Outside the Main Wall***

In addition to removing the very late and incomplete wall found in the E1/F1 baulk (L.704, see above), the contemporary later wall, L.201, was removed so that the lower main wall could be fully excavated. With L.201 removed, the soil continued to be densely packed with cobbles (L.702 and L.713), which extended well below the level of the walls to nearly one meter in depth, but do not appear to be the remains of any in situ architecture. These loci were rich in material culture, however, with large amounts of pottery, flint, bone, and ground stone; another small flake of obsidian was recovered in the screen from L.702, one of two obsidian

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flakes recovered in 2011. Analyses indicate our obsidian derives from at least two different sources, in central and eastern Turkey, suggesting long-distance connections.

East of the main room in L.720 (east of w207, feature L.215, and south of L.218), the top of a wall (w727) was discovered running under the room in F1 (i.e., w208) to the west, and disappears into G1 to the east. This is clearly an earlier phase than the main room in F1. This wall has a very different construction method compared to other architecture in Areas AA and BB. The primary construction of walls in AA tends to include either rather haphazard very large boulders forming a rough wall (e.g., w7) or else medium, roughly rectangular, field stones placed with their long axis perpendicular to the direction of the wall, this earlier phase wall (L.727) is made with rather large field stones, which are laid with their long axis parallel to the direction of the wall. Several people on site noted a distinct similarity between L.727 and the architecture exposed in Area CC.

## Area BB

Two new squares, G1 and H1, were opened at the beginning of the field season in order to provide wider context to previously exposed architecture in Area AA to the west. Topsoil layers in these two squares are similar to elsewhere in Areas AA and CC: rich in Chalcolithic finds intermixed with occasional small weathered Roman/Byzantine sherds and modern debris. Chalcolithic finds from the topsoil included fragments of basalt vessels and grinding implements, a bone tool, a spindle whorl, and a flint ax. Artifact density was high in all top-



Figure 4. Area BB, looking north (Square H1)

soil loci, but L.916 was particularly dense, including ceramic handles, a perforated circular scraper (L.916, B.6036), shell, numerous basalt fragments, and a bone tool fragment.

Architecture uncovered during excavation of this layer includes walls w914, w915, and w926, all located in G1, all single-course, late-phase constructions that are not well understood. These walls do not extend below topsoil layers. Below these late wall traces, more substantial walls were exposed.

Removal of fill L.918 exposed circular stone features (L.923, L.924) similar to those exposed in Area AA. Like topsoil sediments, the fill (L.918) is rich, with some artifacts possibly associated with the circular structures; potsherds were present on L.923 surface, while identifiable animal bones and bone fragments are clearly visible in the matrix of L.924. Architectural features identified in these mottled subsoil layers include w922 and w925 (see figs. 3, 4). Both of these walls have multiple courses, but the bottoms of the walls were not located by the season's end. If they are contemporaneous with each other as well as with w904, which intersects w925, they constitute the earliest phases identifiable in Area BB. W922, at least, almost certainly pre-dates L.918, L.923, and L.924 at its southern end, as L.923 is actually built on top of the southern portion of the wall (see fig. 4).

A possible room in squares G1/H1 is bound by w904, w922, and w925. L.921 represents the lowest level reached in this area during the 2011 excavation season.

L.927 in square G1 has a very different soil matrix than other layers found in Area BB. Loose, silty fill with mixed cobbles is more similar to soils found in Area CC, with substantially less material than in previous loci. The locus initially had dense cobble fill distributed throughout, but, with excavation, it became clear that dense cobbles did not approach or



Figure 5. Area BB, looking north (Square G1)

surround a possible platform or wall fragment located in the center of the locus, as it was initially defined (now L.931 wall fragment; see fig. 5). This stratigraphic change also coincides with (a) the appearance of mudbrick in the matrix and (b) the appearance of earlier phase walls, discussed below.

This stratigraphic change seems to coincide with the appearance of earlier architecture, which is present in wall fragment L.931 (see fig. 5). Although this wall fragment appears to be at approximately the same level and orientation of a similar wall fragment identified in Area AA (F1; see fig. 3), the two fragments do not seem to be connected. Mudbrick deposits running west (under w926) toward the potentially related wall fragment in L.720 (Area AA, F1) and a lack of clear, level floor or packed surface suggest that this mudbrick layer is collapse from the associated wall(s).

In square H1, circular stone features L.923 and L.924 appear to represent an intermediate construction phase between the early phase seen in the G1/H1 walls and late walls present in G1 (fig. 4). These circular stone features are similar in construction and depth to those identified in Area AA. Additionally, they are located at the interface between topsoil and subsoil layers. While the two stone circles postdate w922 on the south (they are built over it) their relationship to w925 and northern sections of w922 are less clear. A potential wall fragment built east off of w922 into L.918 and just to the south of L.924 suggests the possibility that L.923 and L.924 may have been associated with a later use of northern sections of this wall complex. This relationship cannot be verified, however, because neither walls nor L.923 and L.924 are fully understood at present.

Because the walls only became apparent below the main topsoil layers and their bases appear to be firmly located in the later topsoil level, it seems more likely that L.923 and L.924 represent a construction phase that is intermediate to those late-phase walls (w926, w914, and w915) and the bases of w922, w925, and w904. However, if this question can be more satisfactorily answered, it will only be through further excavation.

Walls w904, w922, and w925, while not fully excavated, seem to be contemporaneous and form the walls of a room located on the border between G1 and H1 (L.921; see fig. 5). The floor of this room has not been reached, and there are no discernable features found thus far.

## Area CC

Area CC is comprised of squares L1, M1, L20, and M20. Square L1 was excavated in 2009, with additional limited excavation in 2011. The 2009 excavations revealed a large wall (w12) with a “bench” of three flat stones adjacent and below the wall (L.35) and two additional wall fragments (walls w18 and w22). Limited exposure of M1 (5 x 5 m) was begun in 2010 but stopped with the discovery of walls and dense collapse. Walls w606, w607, and w605 were visible after ca. 15 cm of topsoil were removed in 2010. Walls w605 and w606 run roughly north-south, while w607 runs roughly east-west.

One of the main goals of the 2011 excavations in Area CC was to understand the phasing and structural relationships between the walls in M1 and L1. In order to accomplish this, M1 was to be excavated to the level of L1, as were two new half squares, M20 and L20 (both 2.5 x 5.0 m). These new squares lay north of M1 and L1, respectively.

At least four architectural phases are apparent in Area CC. A concentration of medium and large cobble rubble (probably wall collapse from walls w12 and w614), L.615 straddled squares M1 and M20. Later excavation showed that w12 was, in fact, cut by w614 (fig. 6). Be-



tween walls w606, w607, and w605 was the reddish clay fill (L.616, L.624, and L.631) found in other areas of the site. Recovered in the removal of these fills were ceramics, lithics, bone, and also a ceramic loom weight. One “wall fragment” is more likely to be a part of the cobble pavement (L.636). Excavation between these walls also revealed that w607 and w605 are much deeper than w606, suggesting that w606 belongs to a later phase, an interpretation confirmed by the removal of subsoil between the ostensible connections between w605 and w606, and w607 and w606. By observing the patterns of the stones in these walls at their juncture, we reached two fairly solid conclusions concerning their relative chronologies: w606 cut w607, and w605 was built to join w606. Interestingly, the pavement observed in the rest of M1 was absent between walls 605 and 606, as were any medium or large cobble, which could have derived from a disturbed part of this pavement (as in L.625). This suggests that the pavement ended at the line of (or underneath) w605.

The area of M1 bounded by w605, w607, w614, and w12 was left in 2010 at the reddish clay stratum, with a single mudbrick visible, an area notably poor in artifacts. Early on we noted that there were many medium and large limestone cobbles in the middle of the locus, but we assumed that these derived from wall collapse. Clearly, however, this was not simply wall collapse because they are far (ca. 1 m) from the walls from which they allegedly fell. The removal of many large cobbles from this locus allowed us to better see the remaining parts of a cobble pavement (L.636), which lay directly underneath walls w12, w605, and w607. L.617 and L.625 therefore represent the area disturbed by a cut into L.636. This could have been the result of plowing, as the disturbed area is rather linear, running north-south across the squares.



Figure 6. Area CC, looking east (Square L1)



Figure 7. Area CC, looking north (Square M1)

Below the reddish clay layers in M1 and M20 was the large flat cobble pavement (L.636). One of the most perplexing problems of L.636 is defining the limits. Some of this is an artifact of preservation, but a large part of it probably stems from the original layout of the pavement. The pavement is rather irregularly shaped, with a roughly rectangular outline in M1, which “jogs” out about one meter with the so-called “wall fragment” between w605 and w606 (fig. 7). This jog lies east of what appears to be a seam — a linear gap in the flat pavement stones, which may have marked where a wall would have been constructed, or for w605 itself. Also east of this seam is a series of flat stones making what has been interpreted as a small set of steps leading up to the pavement surface. One of these stones at the top of the stairs contains a ca. 10 cm hollow — a probable doorjamb. The “jog,” then, may be the southern half of a recessed entrance, or perhaps a portico, leading onto the platform, the northern edge of this entrance lying somewhere beyond the northern section of the square. It is interesting to note that the seam, though quite prominent, arcs slightly to the west as it roughly follows the western edge of w605. Where w605 meets w607, the pavement appears to take — maddeningly — another jog east. Wall w607 is itself not present, or at least not preserved, west of the seam, making the shape of whatever room or structure, if any, that was associated with the pavement difficult to delineate. The western part of w607, however, would have certainly been cut by the purported plow activity, which created L.617/625, so preservation is a serious obstacle to this interpretation.

The other primary focus of excavations in Area CC was L1 and L20. After the western extension of w614 was discovered, L.641 exposed the northern face of w614 as well as another possible wall: a line of medium cobble stones running east–west along the northern section

of L20. In L.639, the southern face and bottom course of w614 was exposed, revealing the extremely well-constructed nature of w614 (fig. 6). The stones appear to have been intentionally faced, a fact that makes w614 unique at Marj Rabba and unusual for the Chalcolithic period. A fragment of a wall (w646 = w22 from 2009) was exposed as well; missing its northern face, this was most cut by the construction of w614.

Clarifying the relationship between architecture in L1 (excavated in 2009) and L20, M20, and M1 are a central concern. After removing a layer of reddish clay, mudbrick, and medium cobbles (L.643), a floor or surface (L.649) was exposed. This surface was, in fact, recognized by the discovery of a plastered “cup-mark” (L.644) that defined that level and cuts into L.649 (fig. 6). The association of w18 with L.649 was posited following light excavation around the wall fragment to determine its bottom course (L.645). L.649 was disturbed by wall collapse in the west (L.648) and a pit containing tabun fragments and cobbled (L.647). Near the bottom of the pit, burnt stones and soil were found; several samples of burned mudbrick or tabun fragments were collected.

## **SURVEY**

As part of the 2011 field season a pedestrian survey was undertaken at the site by Research Associate Morag Kersel. During archaeological survey, data was collected in order to examine the extent of the site and immediate environs, and with the hope of identifying artifact surface concentrations. The site survey was designed to discover the extent of the site and to identify potentially distinct areas. All evidence for human activity and material culture were considered relevant information.

Located on a shoulder to the west of the prominent hill of Har ha-Sha’avi, the area is now used for olive groves and animal pasturage, as well as an area of planted pine trees under the control of Keren Kayemet L’Israel (the Jewish National Fund). Surface finds include Chalcolithic flint tools (e.g., axes, adzes, and chisels), cores, and debitage. Ground stone tools (basalt), Chalcolithic pottery (local and Golan wares), and Late Roman or Byzantine vessels were also recorded. As part of the survey we also attempted to gain an accurate picture of the extent of the site and any related sites or sources of water.

Survey transects were spaced 10–20 m apart (depending upon on the terrain and visibility). At regular intervals (10–20 m), again, dependent upon on the terrain and visibility, diagnostic pottery fragments were collected (i.e., rims, bases, handles, and decorated fragments) along with all artifacts of other material classes in a 1 m radius. Artifacts within this radius were collected and bagged. Each of these pickup areas was marked with a pin flag and later plotted using a total station. Between the 1 m pickups all artifacts were counted and noted (using a system of color-coded clickers), providing an accurate accounting of the surface scatters. The survey area was demarcated using the handheld GeoXT GPS to record the extent of the plot. Further information was collected on the survey transect and area including modern land use, agricultural use, level of plowing, and amount of erosion, as well as the time of day, slope, aspect, and visibility.

## **Pedestrian Survey Results**

In the pedestrian survey two notable “hotspots” were identified in which high concentrations of artifacts were evident on the surface. In the northern hotspot there was a high concen-

tration of all types of artifacts: lithics (including tools), ceramics (Roman-Byzantine, local Chalcolithic, and Golan wares), and basalt (vessels). The southern hotspot has unusually high concentrations of worked and unworked basalt fragments (including vessels and grinding stones) and lithic material. Further intensive survey and test trenches are planned for future seasons in order to investigate these areas of potential interest.

## GEOPHYSICAL PROSPECTION

In addition to the archaeological site survey, a geophysical prospection was performed in targeted areas of the site. Specifically, ground-penetrating radar and magnetometry were employed by T. Urban. These remote-sensing techniques attempted to identify subsurface archaeological remains at varying scalar levels (primarily architectural remains). The geophysical survey was performed following the same grid layout as that established for the intensive pedestrian survey. This allowed for greater spatial standardization of the results, which can be integrated with the artifact density data and surface features mapping using GIS. Understanding the architectural layout of the site will assist in planning future seasons and provide a greater understanding of the relationship between the site and its surrounding landscape.

Preliminary results of the geophysical survey are presented in figure 8, identifying an area to the south of the current excavation area with prominent subsurface features only 70–80 cm below the surface. Analyses of the geophysical survey are still being conducted.

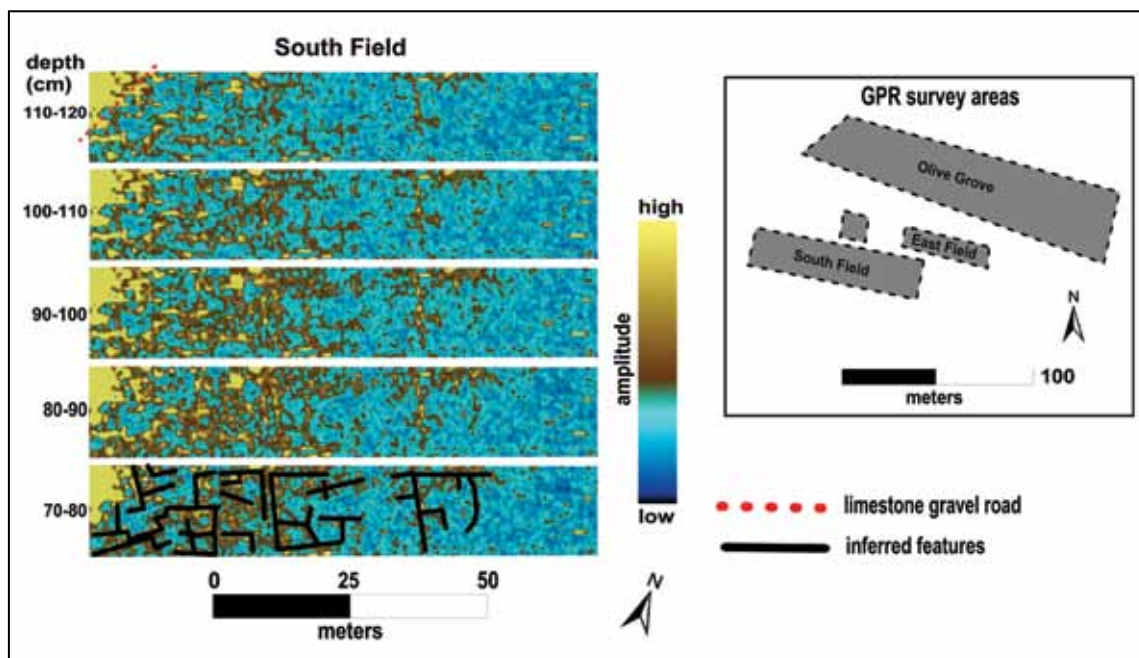


Figure 8. Schematics of ground-penetrating radar from south field, directly south of Areas AA and BB. Image by T. Urban

## Conclusion

The 2011 season began to answer some of the questions about Marj Rabba but at least two more ambitious seasons will be needed to understand all the phases, reconstruct the fragmentary building plan, and expose the buildings predating the circular features in Areas AA and BB. This season demonstrates that the circular stone (silo?) features first recognized in Area AA are not limited to one area. Additionally, the combined exposure of an apparent early phase wall in square F1 and those in Area BB reveal the clear potential for an even earlier phase, possibly similar to the phasing in Area CC.

Areas AA and BB seem to have changed significantly in function and spatial organization from the earlier to later phases. Coupled with results from future seasons and other areas of the site, this could provide insights into changes in social organization through the occupational phases of the site. In future seasons, we will intensify our efforts to glean additional data from specialists about some of the samples recovered this year, such as botanical samples from the small pits, stone circles, and potential floors. This data may prove particularly relevant in Area CC, where greater depth of cultural deposits below the disturbed plow zone may demonstrate better preservation of carbonized remains and more substantial architecture.

## Acknowledgments

On behalf of the Marj Rabba team and my co-director, Morag Kersel, we wish to thank the many institutions and individuals who helped make this a successful season. Excavations at Marj Rabba and the Galilee Prehistory Project were possible through the generous support of the Oriental Institute at the University of Chicago, Oriental Institute Director Gil Stein, and many private donors. The Israel Antiquities Authority provided efficient logistical and in-field support, which we greatly appreciate. David Ilan and Levana Zias of the Hebrew Union College, Nelson Glueck School of Biblical Archaeology, Jerusalem, continued to offer their advice, logistical support, and equipment. We would also like to thank the staff at ORT Braude College of Engineering, particularly Maxine Noam and Ora Dahan. In Chicago, Steven Camp, D'Ann Condes, and Mariana Perlinac provided essential administrative support for which we are very grateful. Special thanks to our invaluable field staff, Austin Hill, Brittany Jackson, Max Price, Dina Shalem, and the volunteers, students, and local workers, for their enduring hard work and professional spirit.

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