

# PRELIMINARY REPORT ON 2021 SEASON OF EXCAVATIONS AT KHIRBAT AṢ SAFRĀ

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## Introduction

Andrews University conducted its third season of archaeological excavations at KHirbat Aṣ Safrā between May 30, and July 9, 2021. The excavations were directed by Paul Gregor and Paul Ray of the Institute of Archaeology at Andrews University, with Ray, Robert Bates and archaeology doctoral candidates Trisha Broy, and Talmadge Gerald as Field Supervisors. About fifteen faculty, students and volunteers were joined by eight Jordanian workers during the excavations this season<sup>1</sup>.

The site of Tall Jalūl, near Mādabā, has

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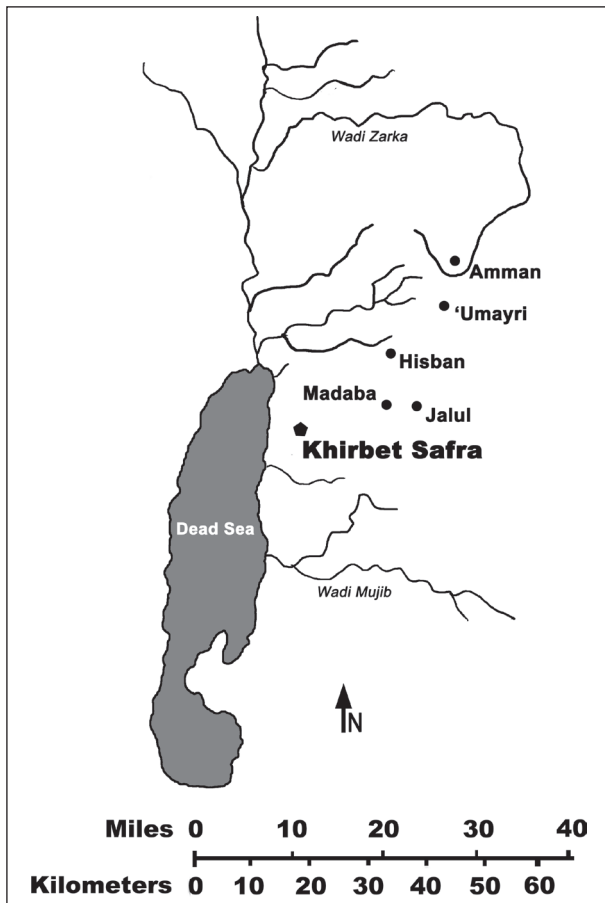
1. We wish to thank HE Ahmad Juma‘a Alshami, acting Director General, and his staff at the Department of Antiquities of Jordan for their support of the project during this season. Also, we would like to express our appreciation to the Director of Madaba Antiquities Directorate, of the Department of Antiquities of Jordan. In addition, we would also like to thank Pearce Paul Creasman and Helen Malko of the America Center of Oriental research (ACOR) for their usual assistance. Finally, we appreciate the help of Abdullah al Bawareed and Khaloud Aqrabwei of the Department of Antiquities of Jordan, who served as our department representatives in 2021 season.

Staff for the 2021 season included director Paul Z. Gregor, and co-director Paul Ray. Paul Ray also served as object registrar, with the help of Jeffrey and Nathanael Hudon. Jeffrey Hudon and Trisha Broy served as pottery registrars, and Robert Bates and Paul Ray oversaw GPS readings on the site. Robert Bates and Talmadge Gerald served as technical advisors, dealing with the electronic database and iPad issues. The Square supervisors for Field B were Elizabeth Emswiler, and Eva Glazer; for Field C were Sion Sung and Sungjin Kim; for Field D Jeffery Hudon, and for Field E Christopher Jenkins. Volunteers included Nathanael Hudon, Venancio Morales, Manoba Manuvel, Shingu Ju, Vieda Van Wyk, Sophia Weiss, Walther Davila, David Ruiz, Fredy Supo, and David Glazer.

been undergoing a series of excavations by Andrews University since 1992, as part of the Madaba Plains Project, with Phase I, of the excavations at the site, ending in 2012. During the publications hiatus, prior to a renewal of future large-scale excavations (Phase II), and in accord with the regional scope of the project, the team has more recently begun work at of the site of KHirbat Aṣ Safrā, beginning with a surface survey in the summer of 2017, and physical excavations at the site, in 2018, and 2019, followed by a third season of excavations in 2021. For background information on Tall Jalūl, the Jalūl Islamic Village, and the history of the excavations at the site (Gane *et al.* 2010; Gregor 2009; Gregor and Gregor 2009, 2010; Gregor *et al.* 2011, 2012, 2017; Herr *et al.* 1994, 1996, 1997; Younker *et al.* 1993, 1996, 1997, 2007 and 2009; Younker, Gane and Shqour 2007; Younker and Merling 2000; Younker and Shqour 2008). For a report on the KHirbat Aṣ Safrā Survey in 2017, and a history of earlier research in the immediate region, see Gregor 2021. For a preliminary report on the first season of excavations at KHirbat Aṣ Safrā, in 2018, see Gregor *et al.* 2021; and on the second season of excavation in 2019, see Gregor, Ray and Moody this volume.

## Results of the 2021 Season at KHirbat Aṣ Safrā

KHirbat Aṣ Safrā is an approximately 2.6-acre site, located southwest of Mādabā, overlooking the Dead Sea (Fig. 1), with a casemate wall system around the perimeter. Excavations this season took place in four



1. Regional Map.

(Fields B, C, D and E). Each excavation square, as in the earlier seasons, was opened, using GPS based on a grid of 6.0×6.0m squares laid over a topographic map created by the Department of Antiquities surveyors during the survey season, in 2017 (Fig. 2).

### Fortification System

Parts of the casemate wall system, which dates to the early Iron Age I, have been exposed in four of the excavation fields (A, B, C, and D) on the site. The casemate wall is divided into broad room compartments, which are integrated into rectangular-shaped houses, built up against it (Fig. 3). The walls of these buildings are freestanding, built directly upon bedrock, which is uneven, with various-shaped crevices. A level surface for building the walls and laying the earliest floors was created by filling in these crevices with a densely packed, sterile, brick-like material<sup>2</sup>.

2. For a more in-depth description of the casemate walls, see Gregor *et al.* 2021, and Gregor, Ray and Moody in this volume.

### Field B

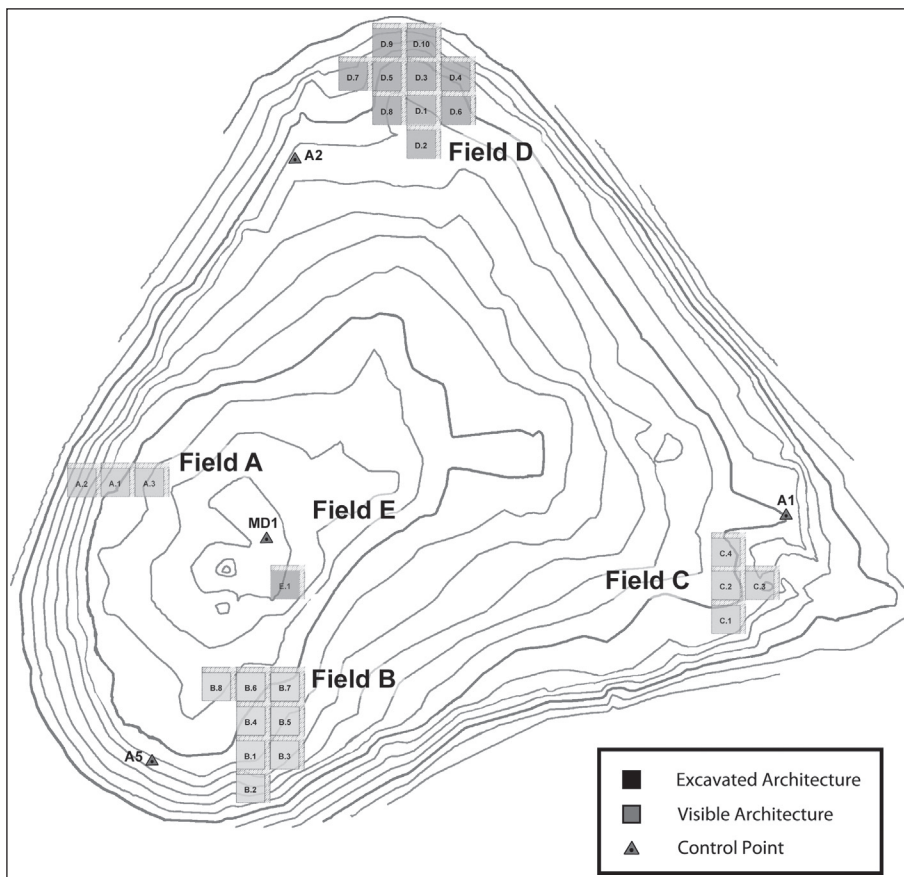
Field B, on the southwest side of the site (Fig. 4), was supervised by Paul Ray. One new square (B8) was opened this season, and another (B7), partly excavated in 2019, was completed. In addition, some balks were removed; one each in Squares 5 and 6, and two in Square 4. Bedrock was reached in part of the new square.

Excavation in Field B was begun in 2018, focusing on two rooms of the fortification system in Squares 1 and 3. In 2019, operations in the field concentrated on tracing parts of two buildings, consisting of long room-structures connected to the broad-room casemates previously excavated. In this current season, the removal of some balks exposed additional architecture in Building 2, and the excavation of part of a third building, to the west of Building 1, was begun.

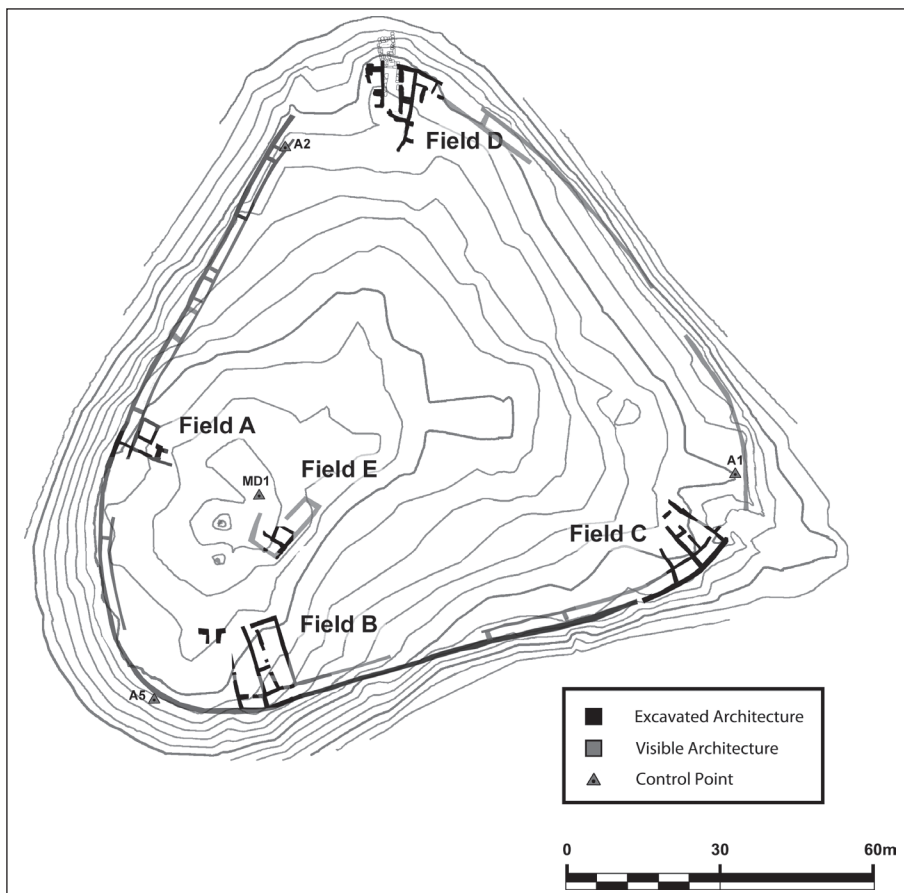
In 2019, Building 1, which continued north from the broadroom casemate structure in Square B1, was traced partially throughout Squares B4 and 6, with the main entrance (B6:20) located on the north side of the building. While the western wall of the building (B1:11=13=B4:2 and 17), with its postern entrance (B4:18), possibly to a narrow alleyway, has only been traced for slightly over half of its distance, the entire eastern wall (B3:6=14=B4:3=6:5) has been completely excavated.

Some beaten-earth surfaces were discovered in this building. The earliest occupation layer (B4:16, 19, 21, 26=B6:12), dating to Early Iron Age I, was located just above the red-bricky material placed in the undulations of bedrock. During Late Iron Age I, beaten-earth surface (B1:5=B4.12=B6.10) was laid. Later, perhaps very early in Iron Age II, still another beaten-earth surface (B1:6=B4.7) was laid. Building 1, as a whole, is uneven, being constructed over three bedrock terraces. The removal of the north balk of Square B4, this season, helped to clarify both the nature of northernmost of these terraces, as well as Surface B4:7, a few centimeters above it.

The outline of Building 2 is clearer than its western neighbor. Sharing the eastern wall (B3:6=14=B4:3=B6:5) with Building 1, it continued north from the broad room casemate structure in Square B3. It was traced throughout parts of the five squares (B3-7),

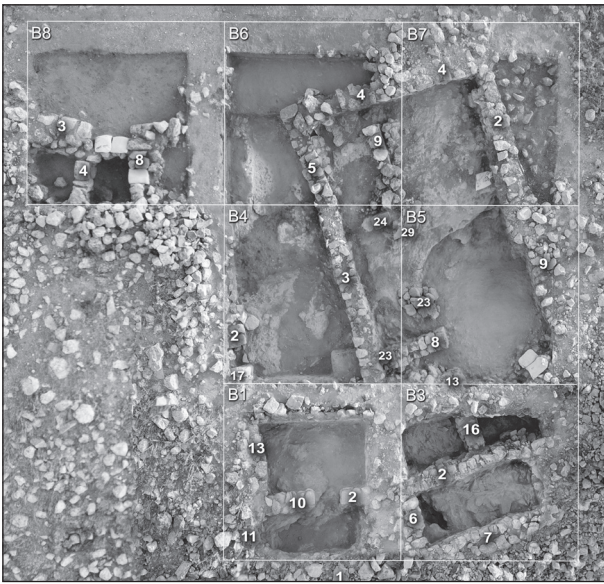


2. Topographic Map of KHirbat As Safrā with Excavation Fields.



3. Topographic Map of KHirbat As Safrā, with excavated and visible architecture.





4. Field B.

excavated during the 2019 and 2021 seasons. The main entrance (B6:18), to this structure (left unexcavated for structural reasons), is also on the north side. The building is subdivided on its southwest side by a small room, with an entrance (B5:26) on the east. Further to the north, located on a bedrock shelf, the building is further subdivided by a pillar (B5:23), and then another long, narrow room, consisting of walls (B5:29=B6:9 and B4:24), with entrances on the south (B4:25), and east (B6:19), into the middle and main rooms. The eastern wall (B5:9=B7:2) of the building, has been excavated for much of its length, the remainder of which can be partially traced on the surface.

Beaten earth surfaces were also found in this building. The earliest floor (B5.25; B5:12; B4:26=B5:27=B4:27=B5:28; B5:19=32) was located just above the red-bricky material, immediately above bedrock. Possible evidence of a fire (B7.10) was found in Square B7. If so, it might be connected with the same conflagration which destroyed the first occupation in some of the other areas (Fields A, C-D) on the settlement. During Late Iron Age I, an additional beaten-earth surface (B5:11; B5:14=15=17) was laid.

Part of a third building, west of Building 1, was excavated this season. The outline of this structure, based on what has been excavated so far, includes Wall B8:8 on the east. However, until the west balk of Square B6 is removed, it is not possible to know for sure if it is the eastern

wall of the building. The top course of the presumed western wall can be traced just above the current surface, outside of the square, and awaits future excavation. The entrance (B8:10), as in Buildings 1 and 2, is on the northern side. Building 3 is subdivided by a Wall B8:4, made of a single row of stones. A sliver lunate earring (Object S0106) was found in the room created by this subdivision. The building, as excavated so far, would appear to be laid out on a slightly oblique angle, due it would seem, to the truncation, at this point, of the triangular-shaped topography of the site, hence, the need to deviate from the general pattern of Buildings 1 and 2. As in the other buildings, there is a beaten-earth surface (B8:13), just above bedrock (B8:15), with red bricky material (B8:14) filling in the bedrock cavities. This building, like the others, was ultimately destroyed in the Early Iron Age II earthquake, with considerable rock tumble (B8:7, 11) from the walls, in evidence.

### Field C

Field C, on the eastern edge of the site (Fig. 5), was supervised by Trisha Broy. Here, two new squares (C3 and C4) were opened this season. Bedrock was reached in both squares. In addition, the east balk of Square C2, excavated in 2018, was removed.

In 2018, excavation in Field C focused on two buildings incorporated into the fortification system. The outer wall of the casemate system was built directly on bedrock, which had been leveled by the original builders, with a red-bricky material. In Field C, this wall (C1:4=C3:4) is a two-row wall with five surviving courses. The inner wall (C1:3=C3:2) is a single row wall, also built directly on prepared bedrock. Single-row walls (C1:12, 20 and C3:8) divide the space between the inner and outer fortification walls into broad rooms that are connected by doorways into the long rooms that extend into the building.

This season, operations in Field C concentrated on exposing parts of both the long and broad rooms of Building 2, as well as their relationship to the adjacent structures. The outer casemate wall (C3:4), within this building, is *ca.* 5.5m long and runs northeast/southwest. Connecting with it, on the north-east and running toward the north-west is the

eastern wall (C3:8=C4:4) of the building, with an excavated length, so far, of approximately 10.7m. Perpendicular to this wall, on its northwest side, is a 1.15m doorway, which, together with Wall C4:5, may possibly form part of the north perimeter of Building 2. The west wall (C2:3), which is just under 10m in length, is shared with Building 1.

Building 2 is subdivided, into several rooms, one of which was further subdivided in a second phase. In the southeast portion of the building, the interior casemate wall (C3:2) creates the rear, or broad room of the building, which is generally rectangular in shape, although the walls are slightly concave to accommodate the curving edge of the site. There is an 80cm doorway on the north-west end of the room, leading into a long room, that was likely an unroofed courtyard. A *tabun* and cooking area, found along the southwestern wall of this area, supports this hypothesis.

Three walls (C2:3, C2:8, C3:2), and two fieldstone pillars (C2:26) delineate another room from the surrounding areas of the building. This room was excavated during the 2018 season. Those excavations revealed a room flanked on the north-east by a wall (C2:8) and two pillars (C2:26). During the second occupational phase, this room was sub-divided by Wall C2:10, and the space between the two pillars was blocked to form another wall (C2:27).

Two use layers were discovered, one dating to Iron Age 1, the later one to early Iron Age II. The first occupation layer consists of a leveling fill, laid on bedrock, to create an even surface. This floor (C2:34, C3:10, C3:25, and C4:10) is consistently covered with a thick ash layer (C2:33, C3:9, C3:16, C3:23) that is sealed under the second floor (C2:32, C3:5, C3:15, C3:20). The ash layer is rich with food preparation tools. A barrel bead, two stone game pieces, and a stone signet ring were also found here. Portions of the second occupational surface (C4:7) may have been paved. Above this surface, wall tumble indicates a destruction of the building by an earthquake.

To the northeast of Building 2 are a few surviving walls forming the south-western line of a “Building 3.” Most of this building was destroyed during the creation of the modern road, leading across the site. The surviving

architecture is comprised of three walls and the edge of a door frame. On the south-eastern side of Building 3, a small portion of the outer casemate wall is still present. This wall remnant connects at the angle of the southern (C3:4) and eastern walls (C3:8=C4:4). A surviving segment of the inner casemate wall (C3:22) is also present. These walls form a portion of a room designated Room A. This room was heavily disturbed by bulldozer activity. Consequently, none of the occupational phases, known from Buildings 1 and 2, were detected. To the northwest of this room, both of these occupational phases, were evident. The first occupational phase again utilized the bedrock (C3:24, C4:12), above which, the ash layer is present, but to a lesser degree than seen in Building 2. The second occupation level (C4:8, C3:20) was at least partially paved, as indicated by six pavers, inside the remaining portion of the doorway. The second occupation was heavily disturbed in Building 3, prohibiting any solid conclusions about its nature.

#### Field D

Field D is located on the northernmost edge of site (Fig. 6) and was supervised this season



5. Field C.



by Talmadge Gerald. In the 2019 season, part of a gateway complex was found, attached to casemate rooms in Squares D3-D6. In 2021, four new squares (D7-D10) were opened and completely excavated.

The gate, located in Squares D3 and D5, is represented by a 2.5m gap in the outer city wall (D3:14 and D5:7), with an accompanying threshold (D3:20=D5:17). Immediately outside of the threshold, there are paving stones (D3:21 and D5:20) that have been worn smooth from use, bordered by two long, rectangular stones (D3:22 and D5:21), set on end, that run perpendicular to the threshold, apparently narrowing the entrance to the gate. The sloping bedrock and cobbled roadway inside the gate (D3:16=D5:19) is lined by two thick walls (D1:2, D3:2 and D5:8=15=D8:4), with benches (D3:9 and D5:16) against them. The goals for this season were to better understand the gate complex in relationship with the outside approach, the casemate defenses, and the adjacent town planning.

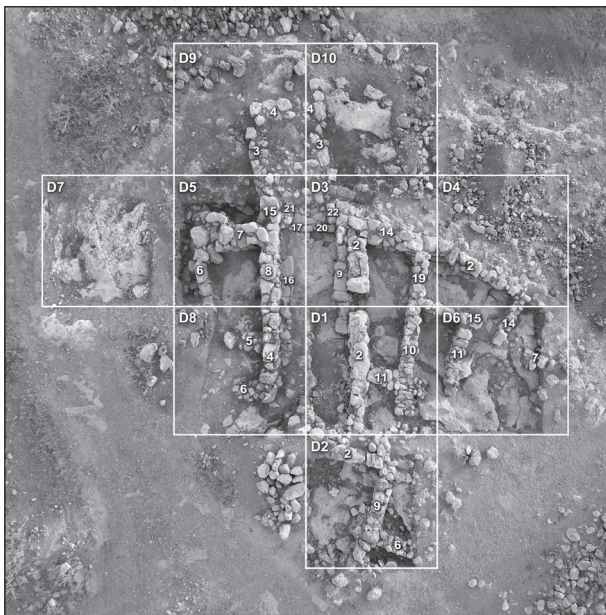
Squares D9 and D10 were located outside of the Gate Structure and outer casemate wall in Squares 3 and 5, in order to investigate potential architectural remnants on bedrock, that might be connected with a hypothesized “outer gatehouse.” To the northeast of the “outer gate-chamber” in Square D10, is a relatively smooth area of bedrock (D10:2), possibly indicating entry from the northeast, into the

site, over a line of flat-lying smooth pavement stones (D10:3), tentatively interpreted as a “threshold.” In Square D9, two, two-row, one-course walls (D9:3 and D9:4) meet at an angle, connecting, it would seem, with the “threshold” in Square D10.

Square D8 was opened to expose the southern part of a room of the western gate chamber. Excavation here provided, for the most part, a mirror image of the eastern gate chamber, with Wall D8:4 being a continuation of Wall D5:8=15, and bench (D8:8) a continuation of the same feature (D5:16) in Square D5. In 2019, it was hypothesized that there was a “doorway,” in Square D5, mirroring the one on the east side of the gate structure, which was filled in a later phase. However, the western chamber wall (D5:8=15=D8:4) lacked clear evidence such a doorway. While this hypothesis is still possible, it is not conclusive.

Square D7 was opened to investigate possible architecture further to the west. However, most of this square did not survive the construction of the modern access road. While the remainder of the square was excavated down to bedrock, no occupational surfaces were found. Otherwise, it contained a shallow soil matrix (D7:1), yielding only a small amount of pottery.

In general, the earth matrix in Field D is extremely shallow, with bedrock emerging, in most cases, within 10cm below the current ground surface. Two bedrock surfaces (D8:7 and D10:2) were discovered in squares D8 and D10. These surfaces had filled and leveled cavities, consisting of hard-packed bricky material and small pebbles, some with flat-lying pottery dating to the Iron Age I. The balks between squares were removed to expose a fully excavated gate complex. A cave located outside of, and approximately 17m east of the gate complex, possibly represents a large cistern for community water collection.



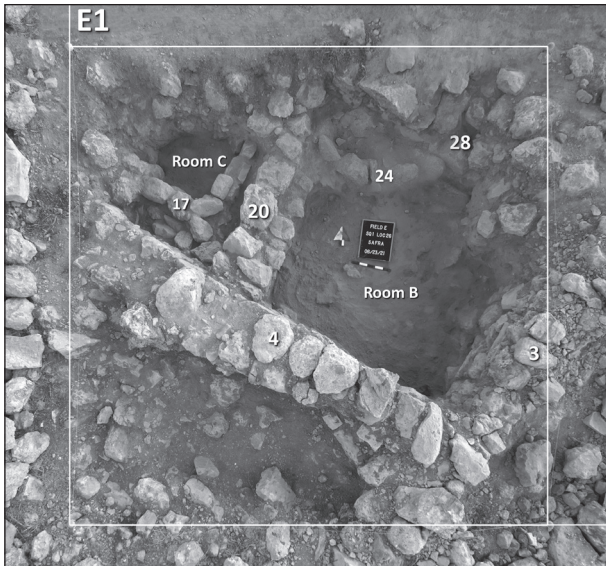
6. Field D.

### Field E

This season a new excavation area (Field E) was opened, supervised by Robert Bates. This location was chosen because it is near the highest point of the site (see Fig. 2), where several walls can be seen above the surface, one extending approximately 30 meters in a northeasterly direction (see Fig. 3). Such places

are often reserved for important buildings and elite living quarters.

Excavations here (Fig. 7), revealed three architectural phases, all dating to Iron Age I. The earliest phase contained a long room (Room A), with walls made of two rows of partially faced, hard limestone boulders, between 0.30-0.45×0.20×0.30m in size, built on a bedrock and clay foundation. There are nine extant courses in the south wall (E1:4), six in the east wall (E1:3), and five courses in the north wall (E1:28). Hard packed clay and small cobbles sealed against the walls, filling in the cavities of the bedrock to create much of the earliest floor (E1:27, 29, 30, 31). Additional occupational fill was used to level the remaining floor in the southeast corner (E1:31). A semi-oblong installation (E1:17), possibly a bin, made of small boulders 0.15-0.20×0.10-0.20m in size, was found at the northwest end of the room. In addition, a plastered installation (E1:25), approximately 0.40×0.60m in size, with a 0.20×0.20m ash-filled pit, was located against the north wall. Several artifacts were found on the floor, including three pounders, a bronze ring (Object S0107, Fig. 8), and a bronze mace/scepter (Object S0109, Fig. 9). A wooden, possibly cedar, spatula with two letters on its reverse side (Object S0108, Fig. 10) was found near the plastered installation (E1:25). A bronze spear point with a bent tip (Object S0094, Fig. 11), was found on the north side of the bin (E1:17).



7. Field E.



8. Bronze Ring (Object No. S0107).

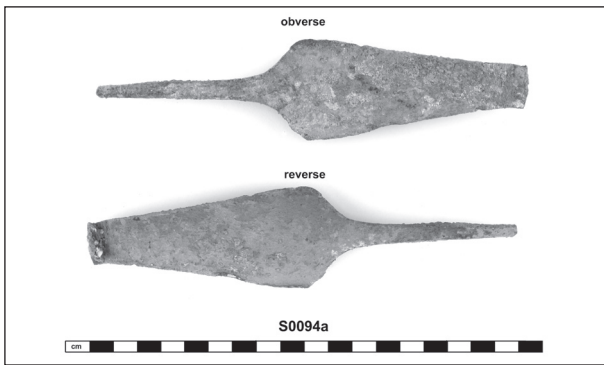


9. Mace/Scepter (Object No. S0109).



10. Spatula (Object No. S0108).





11. Spear Head (Object No. S0094).

This room was subdivided by a wall (E1:20) during a second phase, following a wall collapse (E1:26). Room B, on the east side, incorporating Walls 3, 4, 20 and 28, is approximately 2.0×2.2m in size. Two superimposed floors (E1:21, E1:22), with flat-lying body sherds, were laid, covering the plastered installation (E1:25), on top of which, a semi-oblong shaped installation (E1:24), made of small boulders, approximately 0.40×0.85m in size, was added in the corner of the room, against Walls 20 and 28. The excavated portion of Room C, outlined by Walls 4, 20 and 28, on the west side of Wall E1:20, is *ca.* 1.85m wide.

In the last phase, a doorway, with a 0.30×0.60m threshold and a possible stoop, was built on top of the dividing wall (E1:20), with the floors E1:11 and 12, on both sides, raised to the height of the doorway, partly covering the earlier “bin.” These rooms were later abandoned following a wall collapse, leaving behind large boulders in the abandonment debris (E1:8, 12-15, 18-19).

### Preliminary Conclusions

Based on results from the first three seasons of excavation, the first settlement at KHirbat Aṣ Safrā was established during early Iron Age I, possibly as early as the late 13<sup>th</sup> century BC, or the early twelfth century BC, at the latest, as it occurred at a time when there was still Egyptian influence in the region (see below)<sup>3</sup>. This settlement was at least partially destroyed by fire, later in Iron Age I, represented by thick ash layers throughout much of the site, as revealed

3. The Egyptians maintained a presence in the southern Levant throughout Iron Age IA, a phase generally dated from Tausert (*ca.* 1195-1183BC), or year eight of Ramses III, at the latest, up to the reign of Ramses VI (*ca.* 1141-1133BC), *cf.* Mazar 1985: 100, 103, Table 1, 107.

in Fields A, C and D. Following this event, KHirbat Aṣ Safrā was quickly reoccupied, and remained so until sometime, early in Iron Age II, when the entire site was destroyed for a second time, most likely by an earthquake<sup>4</sup>. Some post-destruction late Iron Age II sherds suggest a possible squatter occupation, following the earthquake, after which there was a hiatus in settlement until the Byzantine period, at which time a large structure was built in Field A. Some pitting activities in Field B, and surface sherds throughout each of the excavation fields also indicate occupation at that time.

As in the first two seasons, the excavations in 2021 yielded mostly small finds connected with agricultural and domestic functions. Of the 155 objects discovered this season, most (114) were related to agricultural activities. In addition, 12 textile objects were also uncovered, with nine items of jewelry; mostly beads, one of which is in the form of a scarab (Object S0093), three recreational (gaming piece) artifacts, a cosmetic spatula, with only two (a sling stone and a spear head) related to warfare<sup>5</sup>. In addition, two possible dome-shaped mercantile weights, and a ring, with an Egyptian-style seal, were found. Based on the ceramics and objects, found so far, it appears as though the site of KHirbat Aṣ Safrā represents a domestic settlement, with an emphasis on agriculture. Notwithstanding, at least four of the artifacts, found this season, had Egyptian motifs<sup>6</sup>, one of which is a seal<sup>7</sup>, possibly indicating that it played a more significant role in the site hierarchy of the region.

### Flotation

While material culture is always important for understanding the lives of ancient people, the focused activities performed in specific

4. It is possible that the site was abandoned some time before the earthquake destroyed the settlement.
5. The bronze mace head (Object S0109) might be considered an object of warfare. However, it is highly decorated and may just as well have had a ceremonial use. It is possible that this artifact functioned as a scepter.
6. A lotus seed vessel pendant (Object S0006) made out of Carnelian (McGovern Type IV.F.5.b), found in the 2018 Season, is yet another Egyptian-style Object found at KHirbat Aṣ Safrā.
7. The seal (Object S0085) is being studied separately by Trisha Broy, who will present the results in a separate venue.



The preliminary phasing of KHirbat As Safrā appears to be as follows:

Phase	Period	Field
Occupational Phase 1	Byzantine Period	A structure, B pits, C sherds, D sherds
Occupational Phase 2	Early Iron Age II	A, B, C, reused buildings, D sherds
Occupational Phase 3	Iron Age I	A, B, C, D, E, fortifications, and buildings

places within houses can provide an additional window into aspects of their behavior. Hence, in addition to the more traditional macro-level archaeological excavation methods used at the site, soil samples were collected from carefully selected stratigraphic contexts throughout the presumed domestic areas, in three of the excavation fields (B, C, and E) on the site. It is believed that these samples, when run through floatation tanks, under controlled conditions, should provide archaeobotanical evidence for which laboratory analysis will likely yield added insight into the micro-level activities of the daily life of the ancient people at the site. All these samples, collected throughout the season, were run through a flotation tank, and then sent to the laboratory of Annette Hansen in the Netherlands, for botanical analysis and species identification. Due to the pandemic, Annette was unable to be physically present on site, but provided logistical support via email. Financial support for this part of the project was provided by a Faculty Research Grant from Andrews University.

### Logistics

Work on the digital form of the *locus* sheets from the Madaba Plains Project Field Manual has continued to evolve, with several new features added by Robert Bates this season. The system uses FileMaker Pro software, and runs on the FileMaker Go App, on iPads. The data are backed up to a lap top computer at the end of each day. GPS is used for geospatial information. Progress shots and end-of-the-season photography are taken by a digital camera from a wonder pole (a telescoping device with a camera mount on top), integrated with an iPad as an optical piece. The numerous images are combined to create final 3D images of each square, using Photo Scan Pro software by Robert Bates, with the help, this season, of Talmadge Gerald.

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