# PRELIMINARY REPORT ON THE 2018 SEASON OF EXCAVATIONS AT KHIRBAT AṢ-ṢAFRĀ

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## Introduction[1]

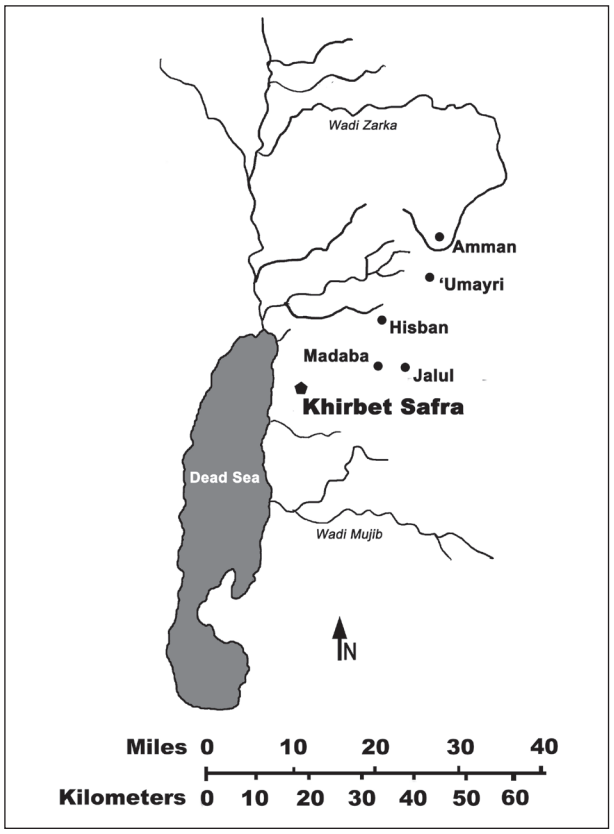
Andrews University conducted archaeological excavations at Khirbat aṣ-Ṣafrā between June 17 and July 27, 2018. The excavations were directed by Paul Gregor, Constance Gane and Paul Ray of the Institute of Archaeology at Andrews University, with Gane, Ray and archaeology doctoral students Trisha Broy and Jacob Moody as field supervisors. About thirty faculty, students and volunteers were joined by 11 Jordanian workers during the excavations this season.

Andrews University has been excavating the site of Tall Jalūl, near Mādabā, for a number of years (1992-present) as part of the Madaba Plains Project. Phase I of the excavations at the site ended in 2012, although short-term excavations in selected fields have continued (2014-2017) during the publication hiatus, prior to the renewal of large-scale excavations (Phase II) in the future. In accord with the regional scope of the project, the idea of excavating an additional small site, with a relatively limited research design, came to fruition with the opportunity to do a surface survey of the site of Khirbat aṣ-Ṣafrā in the summer of 2017. This led to physical excavations at the site beginning in 2018. For background information on Tall Jalūl, the Jalūl Islamic Village and the history of excavation at the site, see 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; and Younker and Shqour 2008. For a report on the 2017 Khirbat aṣ-Ṣafrā survey and a history of earlier research in the immediate region, see Gregor forthcoming.

## Results of the 2018 Season at Khirbat aṣ-Ṣafrā

Khirbat aṣ-Ṣafrā is an approximately 2.6-acre, triangular-shaped site located about 17km southwest of Mādabā, overlooking the Dead Sea (**Fig. 1**) on the western side of Wādī ar-Rīshah, a northern tributary to Wādī Zarqā' Mā'īn. A casemate-type wall system surrounds its perimeter. Four excavation fields (A-D) were laid out using GPS on the basis of a grid of 6×6m squares, placed over a topographic map created by Department-of-Antiquities surveyors in 2017, with the tops of some part-exposed ar-

1. We wish to thank Dr. Monther Jamhawi, 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 Basem al-Mahamid, Director of Madaba Antiquities Directorate of the Department of Antiquities of Jordan. In addition, we would also like to thank Barbara Porter and Jack Green of the American Center of Oriental Research (ACOR) for their usual assistance. Finally, we appreciate the help of Amal Rawahna and Nisrin Khaled Fuqaha of the Department of Antiquities of Jordan, who served as our department representatives during the 2018 season.
Staff for the 2018 season included director Paul Z. Gregor, co-directors Constance Gane and Paul Ray. Paul Ray also served as object registrar, with the help of Constance Gane and Elizabeth Emswiler. Constance Gane and Trisha Broy served as pottery registrars, and Jacob Moody and Paul Ray oversaw GPS readings on the site. Robert Bates, Talmadge Gerald and Michael Orellana served as technical advisors, dealing with the electronic database and iPad issues. The square supervisors for Field A were Roy Gane and Talmadge Gerald; for Field B Elizabeth Emswiler, Eva Glazer and Georg Filippou; for Field C Valentino De Bombol and Ricardo Scarfullery; and for Field D Dorian Alexander and L. Scott Baker. Volunteers included Einra Baker, Katherine Clayton, Seth Coleman, Delilah Drew, Isabella Kunze, Ryleigh Snow, Marriot Boursiquot, Jude Senatus, Aleksandra Jovanovic, Kristijan Milovanovic, Michael Orellana, Laren Kurtz, Aevril Kurtz, Aimme Vitangcol and Benjamin Regoso.

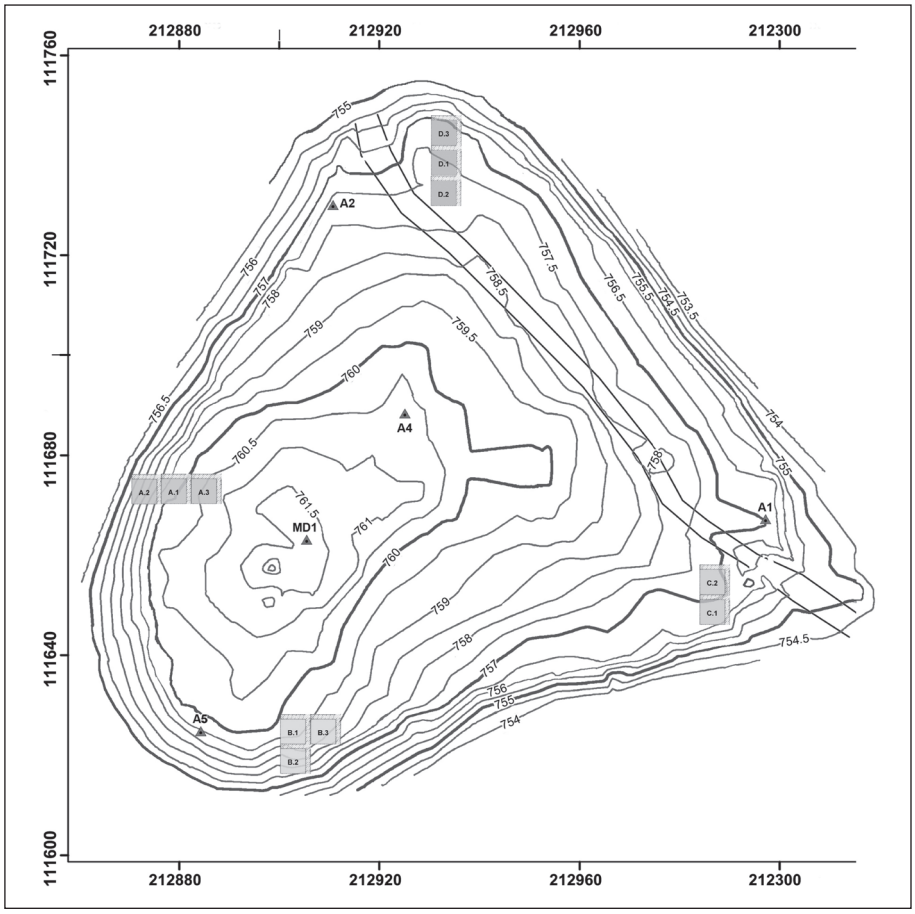



*1. Regional map.*

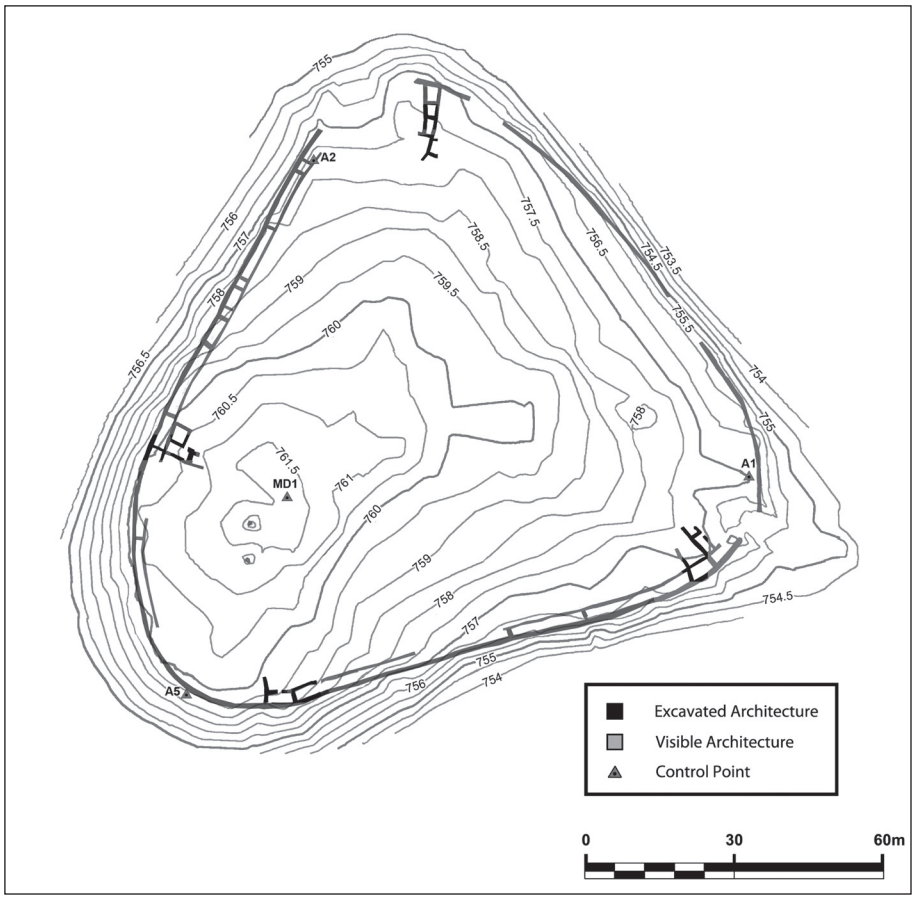
chitecture serving as fruitful locations for their initial placement (**Fig. 2**).

## The Fortifications

The casemate-wall system was exposed in three of the four excavation fields (A, B and C) that were opened this season (**Fig. 3**). In each field, the walls were freestanding, built directly upon bedrock. The latter was uneven, with a number of various-shaped crevices. These crevices were filled with a densely packed, sterile, red-bricky-like material, lacking material culture. On top of bedrock, a *ca* 1.3-1.4m thick, two-row outer wall (A1:4; B2:1=B3:7; C1:4), a *ca* 0.7-0.8m thick, one-row inner wall (A1:3; B1:2=10=B3:2; C1:3) and *ca* 0.4-0.6m thick, single-row cross walls (A1:5, 10, 17; B1:11; B3:6; C1:12, 20) were constructed with large field stones and smaller chink stones, creating broad rooms *ca* 5.0m long × 2.0-2.25m wide. In two fields (B and C) entryways (B1:9; C1:19=23) were found in the inner wall, connecting rooms on either side. In Field B, the entrance was built over the step-like bedrock that rose up gradually (or was perhaps modified),




*2. Topographic map of Khirbat aṣ-Ṣafrā with excavation fields.*



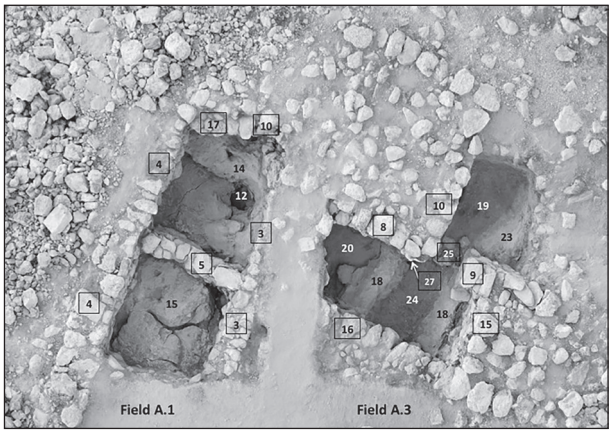

*3. The casemate fortification system at Khirbat aṣ-Ṣafrā.*

leading from the broad room of the casemate into the long room of another structure, built immediately inside the inner wall. In each field, the initial construction of the casemate-wall system dates to the early Iron Age I.

**Field A**

Field A (**Fig. 4**), consisting of two squares (A1 and A3) laid out on the western edge of the site, was supervised by Constance Gane. Parts of both squares were excavated to bedrock. Early Iron Age I ceramic remains were found directly upon the bedrock (A1:14=15) in Square A1, which consisted of two rooms next to the outer casemate wall. Both rooms exhibited beaten-earth surfaces (A1:9, 11), with ceramics dating to early Iron Age I, stone grinders and pestles, and numerous animal bones. Above this surface in both rooms was a mix of Iron Age I, Iron Age II and Byzantine-period ceramics among what appears to be mudbrick-superstructure collapse, indicating a violent disruption of occupation here.

Square A3, though also disrupted by tectonic activity, provides a clearer occupational history. A doorway provides access between the southern and northern rooms along the inner casemate wall. Here, the same early sequence of red-bricky material with early Iron Age I pottery was sealed by a plastered floor (A3:21) - with early Iron Age I ceramics imbedded in the plaster - in the southern room. Above this level, a thick (up to 0.5m) ashy lens covered most of the two rooms, indicating a conflagration. Post-occupational debris suggests a period of abandonment. Above, was a beaten earth surface




*4. Field A.*

(A3:17) which dates to the Byzantine period. At this time substantial Byzantine walls (A3:8-10, 15-16) were built, at least one built upon an Iron Age I wall. A later beaten-earth surface (A3:11) also dates to this time. These surfaces and walls indicate a relatively well-established Byzantine-period occupation on this part of the site.

**Field B**

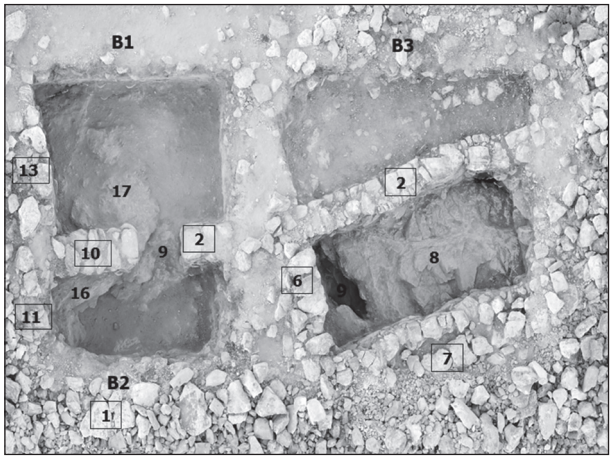
Field B (**Fig. 5**), supervised by Paul Ray, consisted of three squares (B1-3) laid out on the southwestern edge of the site, of which one (B1) was completely excavated, a second (B3) partly so, and a third (B2) - while not excavated - was nevertheless used to trace the outer wall on this side of the site. Bedrock was reached in parts of both of the excavated squares.

In Square B1, several use layers were discovered in a long room on the inner side of the broad room of the casemate wall (B1:2=10), bounded on the west by Wall B1:13, and possibly on the east by an as yet unexcavated wall in the balk between Squares 1 and 3, following the trajectory of the cross wall of the eastern casement (locus B3:6). The first occupation layer (B1:14; B3:9), dating to early Iron Age I, was located above the red-bricky fill material (B1:15) that was also found in locus B3:11, above bedrock (B1:16=17=B3:8). Many animal bones and a number of domestic and textile artifacts were found within this layer. During late Iron Age I, a beaten-earth surface (B1:5) was laid on top of the initial use layer, after which - during early Iron Age II - another beaten-earth surface (B1:6) was laid above a fill layer (B1:7). Stone thresholds connected with both beaten-earth surfaces were found in the doorway of the inner casemate to keep everything level on both sides of the wall.

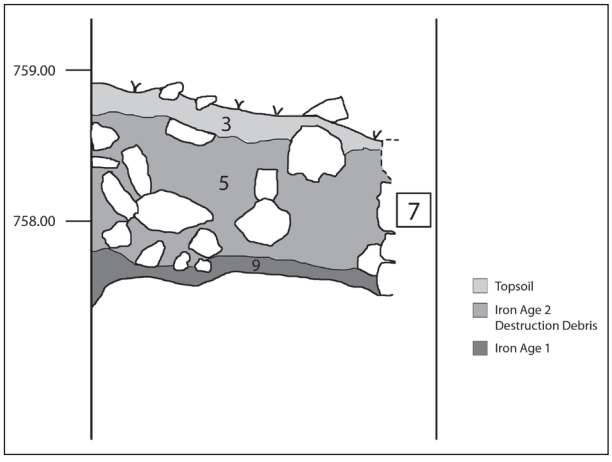
A destruction, probably caused by an earthquake some time in Iron Age IIB (8th century BC), forced large portions of the outer casemate wall to fall down the hill to the south of the site [In general, architectural elements fall in the opposite direction to plate movement during tectonic activity, which on the east side of the Dead Sea Transform is to the north], leaving *ca* 0.75m of the mudbrick superstructure (B1:12; B3:5) of the inner casement wall in the broad rooms, in Squares B1 and 3 (**Fig. 6**), with smaller amounts of destruction debris (B1:4, 8; B3:4, 10) in other parts of the building, after which the structures in this part of the site were abandoned. Later, during the Byzantine period, there seems to have been some squatter activity, as three isolated whole-vessel forms (a juglet and two cups) and part of a jar were found in pits (B3:12, 13) dug in Square B3, with post-abandonment earth material (B1:1, 3; B3:1, 3) accumulating ever since.

**Field C**

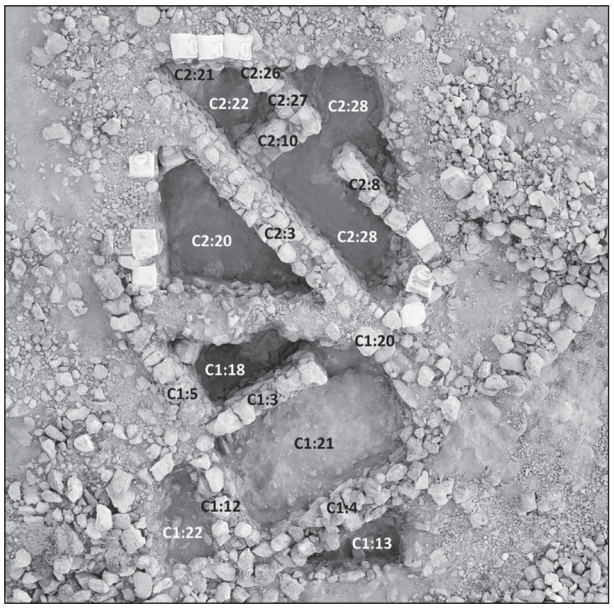
Field C (**Fig. 7**) is located on the southeastern corner of the site and was supervised by Trisha Broy. The excavations in this field consisted of two squares (C1 and C2). Some Late Bronze Age II/early Iron Age I transitional pottery was found on the surface (C1:17; C2:17, 25) created from the red-bricky material on top of bedrock. This material was sealed below a destruction layer (C1:16; C2:16, 18, 23, 24), approximately 0.1m thick, which contained a large amount of broken ceramic vessels and domestic food-preparation objects, such as




*5. Field B.*



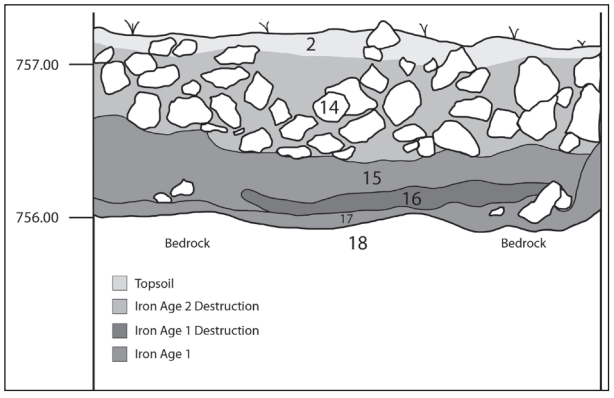

*6. Field B3 east balk.*




*7. Field C.*

grinders and pounders (**Fig. 8**). The ceramics date primarily to the Iron Age I, with a few earlier forms.

A second occupational level (C1:15; C2:11, 12, 13, 14, 15, 19) consisted of a beaten-earth floor in both squares. The entrance between the broad room of the casemate and the room immediately inside was blocked (C1:19=23) at this time, as was another entrance (C2:27) to the northeast that connected a narrow room or alley with an apparent staircase (C2:21) to a larger room of as yet unknown dimensions. Flat-lying pottery sherds, a pair of bronze bangles, and a roof roller were found on the surface (C2:12, 15) of this narrow room. Above this surface, in both squares, was a series of ash layers (C1:9, 10, 11, 14; C2:4, 5, 6, 9) suggesting another conflagration. These *loci* contained ceramics that date to the Iron Age II. Above these ash layers was an abandonment layer (C1:1, 2, 6, 7, 8; C2:1, 2, 7) consisting of a heavy concentration of boulders from wall tumble, dated by ceramics to Iron Age II.

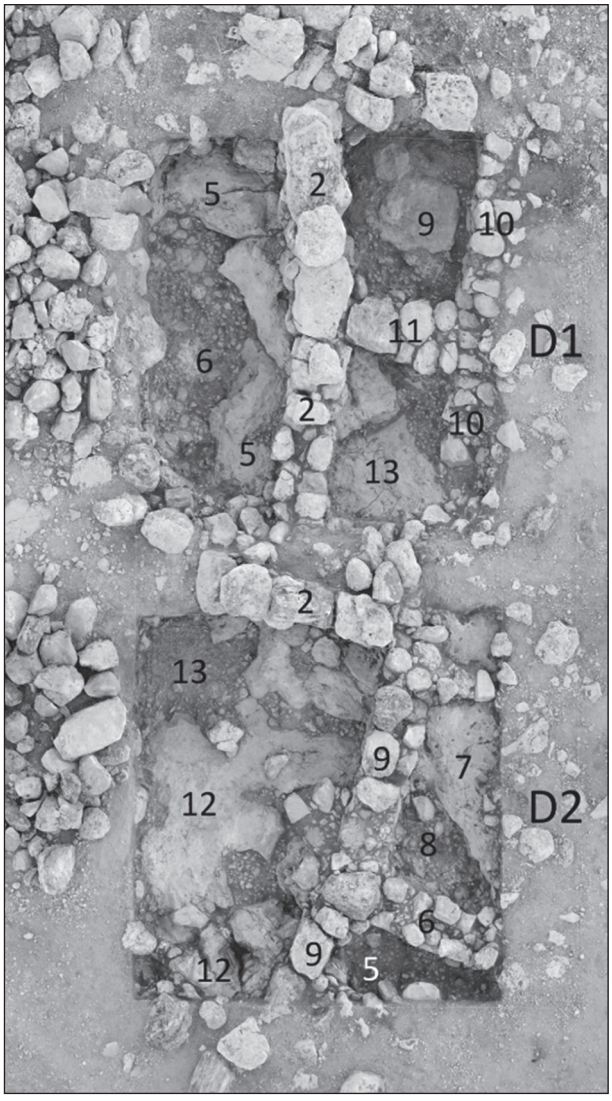



*8. Field C1 north balk.*

**Field D**

Field D (**Fig. 9**), supervised by Jacob Moody, is located on the northernmost edge of the site. Three squares (D1-3) were planned for Field D this season, of which only two (D1-2) were fully excavated. This area was chosen for excavation because of the visible wall lines, some with stones larger than anything else visible on the site. The soil is also rather shallow in this part of the site, in places extending only 0.1m above the bedrock.

As in the other fields, there was a clear preparation phase here where the walls of buildings were laid upon a red-bricky material (D1:6, 12;




*9. Field D.*

D2:5, 8, 13) which leveled the uneven bedrock (D1:5, 9, 13; D2:7, 12). The vast majority of this deposit was without material-culture remains, but diagnostic early Iron Age I sherds were found on top of this fill layer (in D2:8), helping to date the earliest construction in this part of the site. The walls built on top of this material (D1:2, 10, 11; D2:2, 6, 9) form sections of at least two buildings, in a square-shaped layout, within which parts of three to four rooms were excavated.

In these rooms, the first occupational layer (D1:8, 14), which had flat-lying early Iron Age I pottery, was built right on the bedrock, upon which was an ashy layer with a half of a small storage jar, plus a possible incense stand in the northeasternmost room of Square D1 and part of an early Iron Age I biconical jar and several grinding stones, pounders and a possible hob in the southeastern room of the same square. Further excavation is needed to determine the function of these buildings.

No clear occupation layers were found above the ash layer, indicating - it would seem - a possible abandonment of this area of the site. These abandonment layers contained mostly Iron Age I - with a few datable Iron Age II - sherds. The topsoil had a nearly even mix of Iron Age I and II sherds, with only two small Byzantine-period body sherds.

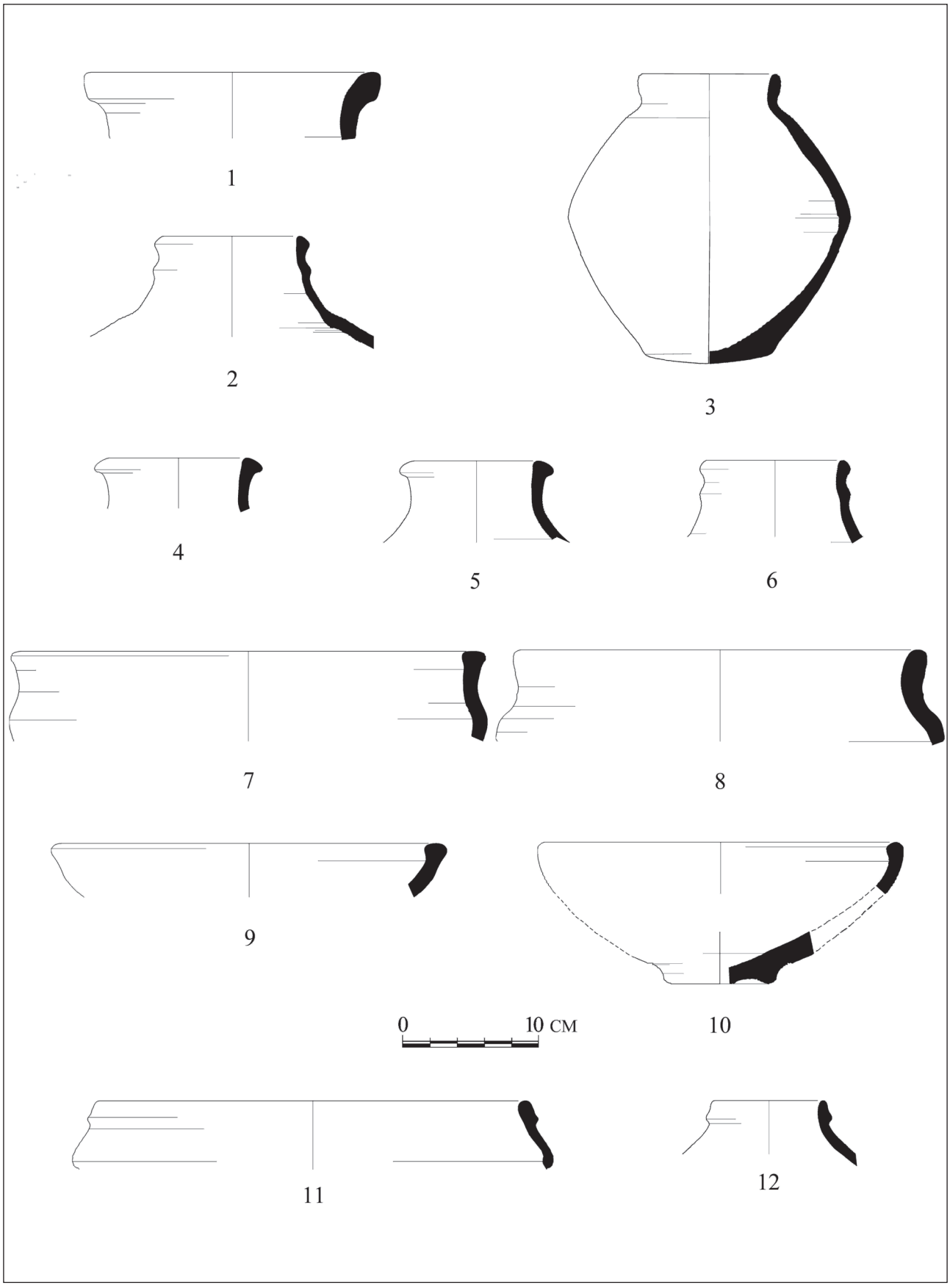
**Preliminary Conclusions**

Based on results from the first season of excavation, the first settlement at Khirbat aṣ-Ṣafrā was established during the earliest part of Iron Age I (possibly 13th century BC). The settlement was destroyed by fire (thick ash layers were found in Fields A, C and D) at the end of Iron Age I or the beginning of Iron Age IIA (*ca* 10th century BC). At the present time the cause of the fire is not known, but a second settlement was established soon after, most likely by the same group of people (evidence of this settlement is present in Fields B and C). After that time, Khirbat aṣ-Ṣafrā remained occupied until the 8th century BC, when the entire site was destroyed for the second time (most likely by earthquake) [The earthquake, if connected with the one mentioned in Amos 1:1 (*cf*.. Zechariah 14:5), would have occurred in *ca* 760BC with a magnitude of 7.3 (Migowski *et al*. 2004: 307, Table 2) and, like many earthquakes along the Dead Sea Transform, left its mark on both sides of the Jordan river (Raphael and Agnon 2018: 769, 777-78, Table 2), with Khirbat aṣ-Ṣafrā possibly now adding its name to the list of those sites (Dayr ʻAllā, Tall as-Saʻīdiyyah, Pella, Ḥamrat Fīdān and Tall al-ʻĀdliyyah) on the Transjordanian side of the river]. Following this destruction, the site was abandoned with the exception of a structure found in Field A, and some pitting activities in Field B during the Byzantine period.

| Phase | Period | Field |
|---|---|---|
| Occupational Phase 1 | Byzantine Period | A, B |
| Occupational Phase 2 | Early Iron IIA (10th-8th cent. BC) | B, C |
| Occupational Phase 3 | Early Iron I (13th-10th cent. BC) | A, B, C, D |

During the archaeological survey conducted in the summer of 2017, numerous ceramics were collected from the surface of Khirbat aṣ-Ṣafrā (Gregor forthcoming). Based on a preliminary study, the ceramic horizon represented Iron Age IIA and B occupational periods. However, as noted above, Phase 3 from the 2018 season of excavations represents a major Iron Age I occupation. That little or no evidence of Iron Age I ceramics was found in the survey pottery seems to be because this material was covered and sealed by a major destruction layer in Iron Age II. This result is typical of walking surveys, as there is a tendency to recover more sherds from the better-represented upper levels of a site as well as from the over-represented material connected with destruction events (Faust and Katz 2012; Shai and Uziel 2014) [While two probes, one 1×1m and a second 1×2m, were excavated in the center and between one section of the casemate walls on the western side of the site respectively, to a depth of less than 1m, only one diagnostic sherd was found in each probe, suggesting - perhaps - a more effective result if the shovel tests were at least 2×2m in size (Faust and Katz 2012)]. Typical Iron Age I ceramics (**Fig. 10**) from Phase 3 include collar-rim pithoi (**Figs. 11**, **12**), biconical jars (**Fig. 10**:3) and Manasseh bowls (**Fig. 10**:9-10).

During the first season of excavation, 240



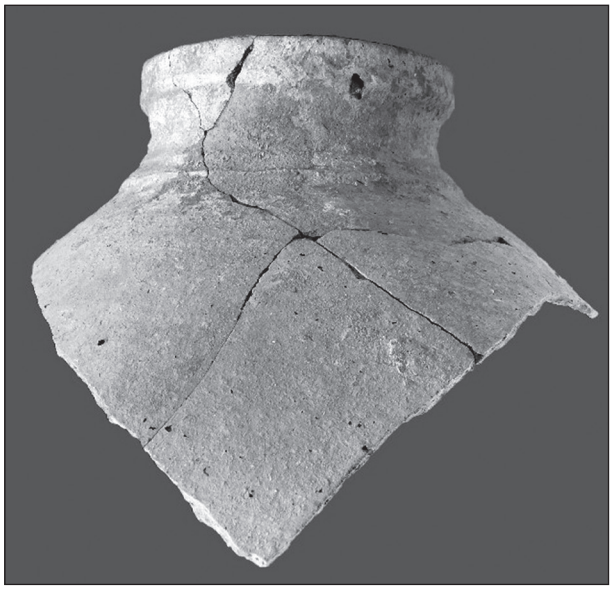

*10. Selected Iron Age I ceramics from Fields A-D.*

objects were discovered, most of which (133) were related to agricultural activities. In addition, 20 textile objects were also recovered, with only seven related to warfare. Based on the objects, it is likely that the site of Khirbat aṣ-Ṣafrā represents a typical domestic settlement, with an emphasis on farming activities, which of course does not exclude the possibility that during at least part of the year the occupants were also tending sheep and goats.

## Logistics

While the excavation team has experimented for several years with digital locus sheets in selected excavation areas at Tall Jalūl, this season - at Khirbat aṣ-Ṣafrā - the excavation went totally electronic for the first time. The locus sheets from the Madaba Plains Project field manual were converted into a completely digital format by Robert Bates using File Maker Pro software, and were run in the field on the File Maker Go app on iPads in each square. The data were backed up wirelessly via 'air drop' from the iPads to a laptop computer at the end of each day in the field. Daily progress shots, photos of pottery readings and artifacts were taken on the iPad camera and embedded into the locus sheets, as well as being stored on the device. GPS was used for geospatial information. Top plans were produced either on the Touch Draw app using the iPad, or manually, on graph paper that was subsequently scanned to the iPad. In addition, morning field shots and end-of-the-season photography were taken by means of a 'wonder pole' (a telescoping device with a camera mount on top), using a digital camera integrated with an iPad as an optical piece, with the numerous images being combined together by Jacob Moody using Photo Scan Pro software to create a final 3D image of each square.

*11. Early form collar-rim pithos.*



*12. Collar-rim pithos.*

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