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Sifting through the archive: reassessing Tall Dayr ‘Alla’s Late Bronze Age sequence and chronology

Diederik J. H. Halbertsma ^{a,b}, Michel de Vreeze ^c, Margreet Steiner^d and Eveline J. van der Steen^d

The renewed ‘Tall Dayr ‘Alla Temple’ project aims to re-examine the impressive remains of a series of Late Bronze Age (LBA) temples at the site of Tall Dayr ‘Alla in the Jordan Valley. A first season was carried out in 2022, which revisited parts of the sequence excavated by H. J. Franken over two field seasons in 1961 and 1964. By combining newly digitized archival materials from these excavations with renewed archaeological fieldwork, the 2022 season sought to clarify certain inconsistencies in Franken’s 1992 publication of the temple sequence and, through targeted radiocarbon sampling, to resolve questions regarding the site’s chronology and the end of the LBA. This project produced a revised stratigraphy for the LBA temples, gained new insights into their construction and identified evidence for a sustained use of the unique Deir ‘Alla script.

Keywords archives, stratigraphy, Jordan, Late Bronze Age, radiocarbon dating, temple architecture

Introduction

This article presents a re-evaluation of the Late Bronze Age temple sequence at Tall Dayr ‘Alla, combining a critical reassessment of the original excavation documentation with evidence from a field season in 2022. Tall Dayr ‘Alla, Jordan (Fig. 1) is one of the most prominent settlement mounds in the Central Jordan Valley (locally called the Ghor Abū ‘Ubaydah), near the entrance to the Zerqa Valley (Fig. 2). It is a key archaeological site because of its largely uninterrupted and well-stratified occupational sequence, spanning from the Middle Bronze Age to the Persian Period, along with a Middle Islamic cemetery. The site is vital for understanding cultural and religious developments and daily life in the Jordan Valley from the Middle Bronze Age III to the Iron Age II periods (*c.* 1650–600 BCE) (Franken 1969;

1992; van der Kooij 2001; 2006). It was first excavated by Hendricus (Henk) J. Franken of Leiden University between 1960 and 1967, and again in 1976 and 1978. From 1979 to 2009, Gerrit van der Kooij, also of Leiden University, led further excavations in collaboration with the Department of Antiquities of Jordan and later Yarmouk University (Mo‘awiyah Ibrahim and Zeidan Kafafī), marking nearly five decades of fieldwork at the site (van der Kooij 2023: 217–19).

Tall Dayr ‘Alla attracted extensive scholarly interest after the 1967 discovery of Iron Age II plaster fragments inscribed in Aramaic, which recount a local version of the Balaam narrative (e.g., Hackett 1980; Hoftijzer and van der Kooij 1976). However, the site also contains significant remains from earlier and later periods that have often been overlooked. During the 1961 and 1964 seasons, Franken excavated a sequence of prominent Late Bronze Age (LBA) temples on the northern slope, later published in detail (Franken 1992). He uncovered 16 rooms from the latest temple phase (Phase E), including a *cella*, treasury, chapel, courtyard and storage areas. These rooms contained hundreds of ceremonial and

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Figure 1 Tall Dayr 'Alla in 1962 (courtesy of the Tall Dayr 'Alla Project).

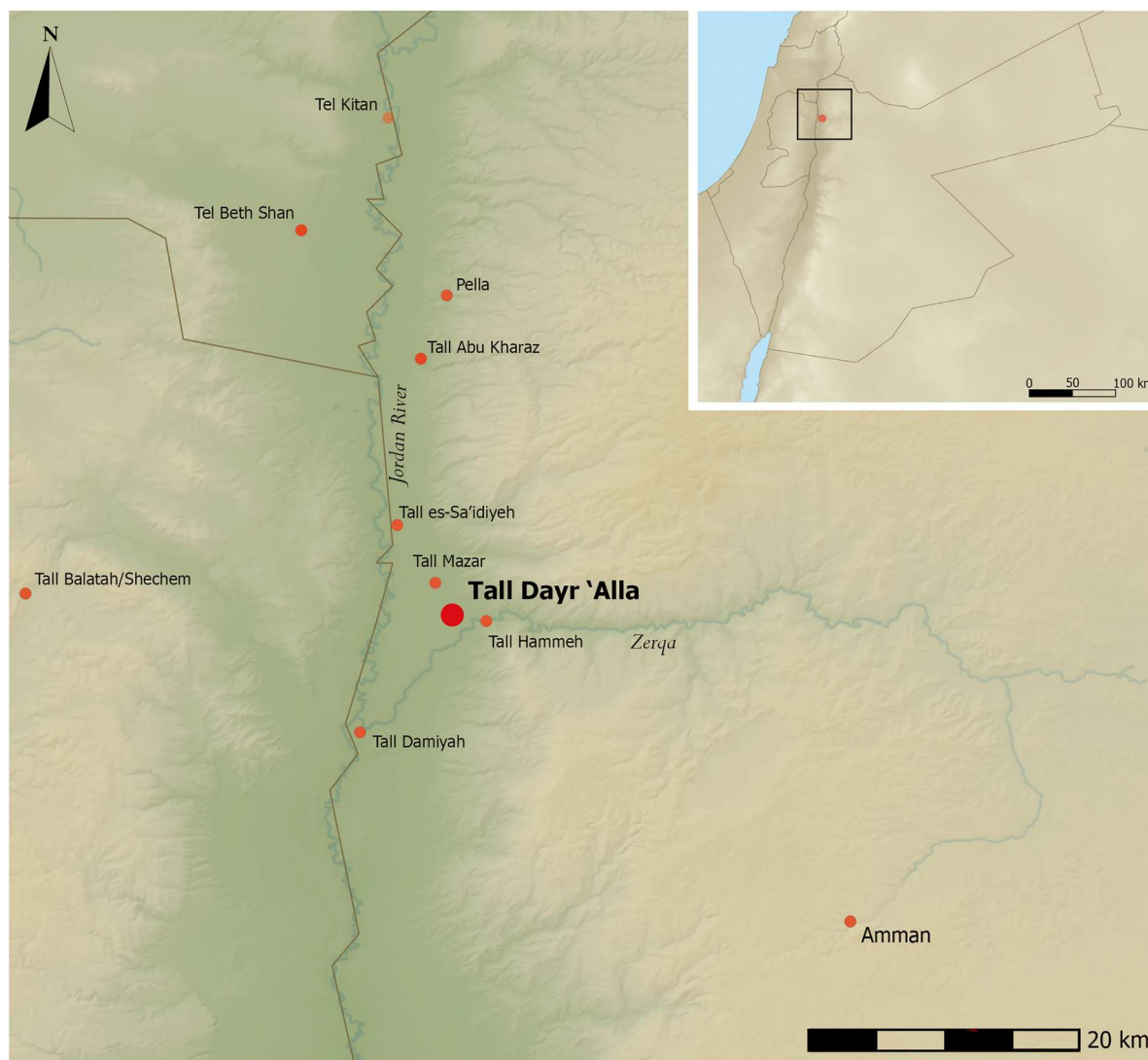


Figure 2 Map of the central Jordan Valley (image by authors).

domestic vessels, along with objects made of faience, gold, copper alloy, alabaster, stone, glass, ivory and bone. These discoveries demonstrate extensive exchange networks connecting Egypt, Mesopotamia and the eastern Mediterranean. The temple also yielded several inscribed clay tablets in an undeciphered script. Due to its long occupation, scale and rich assemblage, Tall Dayr ‘Alla remains one of Jordan’s most important LBA temple complexes (Steiner 2023).

The temple sequence appears to have been founded in the 16th century BCE (Phase A), based on the presence of LB I pottery encountered in a ‘hoard’ (see below). The final phase of the temple (Phase E; Fig. 3) appears to have been destroyed by an earthquake and a subsequent conflagration and is dated to the early 12th century BCE. This date was mainly based on a faience vase bearing the cartouche of Pharaoh Tausret, found on the Phase E floor. Although the exact dates of her reign remain uncertain (see Callender 2012; Creasman *et al.* 2014), conventional chronology places it around 1188–1186 BCE (e.g., van der Kooij 2006: 221; Wilkinson 2012: xii). This provided a *terminus post quem* for the temple’s destruction, meaning that, given Tausret’s brief reign, the destruction likely occurred during or shortly after her rule and is thus generally dated to c. 1188–1150 BCE (e.g., van der Kooij 2006: 221–23).

No comparative research was conducted on the pottery (but see Frendo 2008), and Franken took only one ^{14}C sample (see below). Notably, a limited sounding through the *cella* floor uncovered several earlier temple phases (Phases A–D), all containing ritual finds (except phase C — see below). The earliest

phase dates to the start of the LBA, around the 16th century BC (Franken 1992: 2).

In 1967, a new phase of excavations was started to reveal more of the temple complex, but the discovery of the Balaam inscription shifted the focus to this important find. The Six-Day War later that year halted work for several years. When excavations resumed in 1976, the focus turned to the Iron Age levels south-east of the temple to provide context for the Balaam inscription. From 1994 onward, LBA levels were again excavated, this time on the southern slope of the mound, revealing domestic and storage structures likely destroyed by the same earthquake that had destroyed the temple complex (Ibrahim and van der Kooij 1994; 1997; Kafafi 2009a; van der Kooij 2006; 2023).

The temple itself was not excavated in later seasons, partly because of the difficulties of working with its burnt and displaced destruction layers, and it has remained uninvestigated since 1964. As a result, the temple has fallen into scholarly obscurity, only noted by a handful of specialists focused on LBA archaeology in the southern Levant. In fact, various recent studies on Bronze Age temples and cult sites rarely mention the Tall Dayr ‘Alla temple (e.g., Kamlah 2012; Sala and Tucci 2019; Susnow 2021; but see Greenberg 2019 for an exception).

Issues with the 1992 publication

Franken’s investigations of the LBA temple resulted in a comprehensive site report (Franken 1992), providing a room-by-room inventory of small finds and ceramics. While the report focussed primarily on the

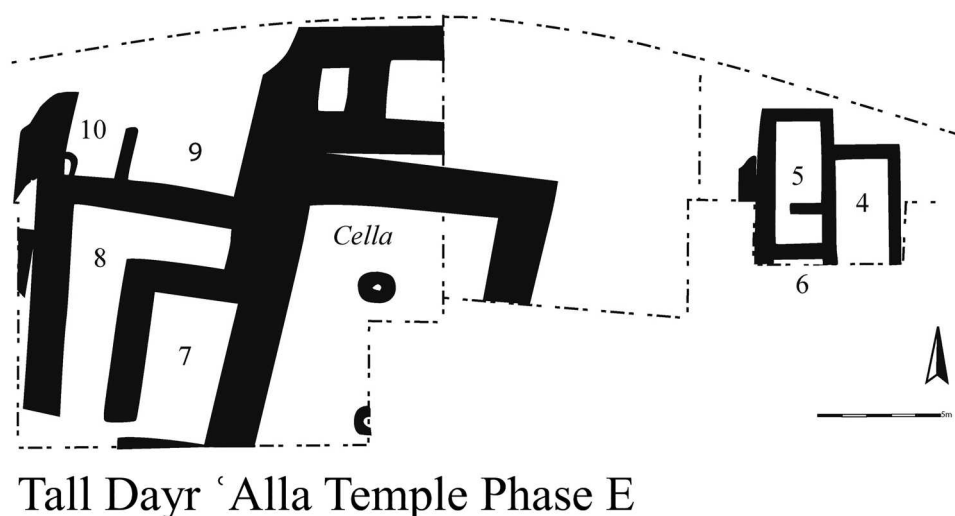


Figure 3 Plan of Phase E temple complex, with the room numbers assigned by Franken (after de Vreeze 2022: fig. 3.3).

most extensively excavated temple phase, Phase E, Franken describes a sequence of five temple phases:

Phase A is the earliest recognized temple phase, which Franken (1992: 1) dated to the beginning of the LBA, in the 16th century BCE. Not much is known about the layout of this temple, and only the so-called ‘hoard’ has been fully published (but see below for another interpretation).

Phase B’s documentation is limited to the attribution of several mudbrick layers to this phase. Franken did not identify corresponding walls or finds.

Phase C is depicted as a thin mudbrick debris layer (Franken 1992: fig. 2-5), with little else known about this phase. Diagnostic sherds and registered objects are shown in the site report.

Phase D again is not extensively published, with only diagnostic sherds and registered objects published in the site report. As shown in Franken’s report (1992: fig. 2-5), its northern wall appears to align with Phase E.

Phase E is the most extensively excavated of the temple phases, yielding the overall plan shown in Fig. 3. All its registered objects and ceramics are discussed per room. As mentioned above, this phase was likely destroyed sometime after 1188 BCE, but the date of its construction remains unclear. This temple phase is characterized by various storage rooms with serving vessels and objects associated with cultic practice and a large room that Franken identified as a *cella* based on the rich inventory of finds encountered on its floor, including the arm of a terracotta statue potentially depicting a deity (Franken 1992: fig. 3-11), and bone inlays suggestive of furnishings (Franken 1992: fig. 3-10). Although the temple has only been partially exposed, the available evidence currently supports Franken’s interpretation, and his terminology is retained throughout this article.

Franken’s (1992) report was compiled about 30 years after the initial excavations, leaving much to be desired:

- The various plans of the temple are quite unclear and seem to combine excavated remains with assumed reconstructions.
- Some published plans lack elevation data. This makes it difficult to verify the phasing

reconstructed by Franken, as levels often cannot be traced across different excavated squares.

- The numerous finds from the temple have been published as drawings and black-and-white photos, all in a small format. All registered objects from Phase E, including both ceramic and non-ceramic items, are presented, while from the earlier phases C–D, only diagnostic sherds and registered ceramic objects are shown. This makes it unclear whether non-ceramic objects were found in these layers. The small size of the illustrations makes it challenging to study the objects in detail and complicates comparative studies.

As was not unusual for excavations in the 1960s, only one radiocarbon sample was taken from the LBA layers by Franken. This sample was extracted from a roof beam in Phase E and had an actual date of 3130 ± 60 BP, which, when calibrated, initially indicated a range of *c.* 1188 BCE ± 60 (Franken 1992: 177; Vogel and Waterbolk 1967: 140). Recalibration in OxCal 4.4.4 (Bronk Ramsey 2021) produced a much earlier date of 1510–1229 BCE (2- σ 95.4%). This likely demonstrates the old-wood effect, with an error margin too wide for dating the end of Phase E (Franken 1992: 177).

- Finally, Franken included only limited comparative studies of the material from the LBA temple. Its dating, therefore, relies almost entirely on the faience ‘Tausret vase’ found in the *cella* of Phase E. Additionally, the interpretation and implications of the temple sequence and its inventories are considered in isolation from the immediate and surrounding regions.

Franken (1992: 166) envisioned the temple at Tall Dayr ‘Alla as an isolated structure in the central Jordan Valley, not connected to a settlement. Although he proposed the existence of ‘many buildings on the mound surrounding the *cella*’ (Franken 1992: 166), he understood these to be part of the temple complex rather than domestic in character. He proposed the first temple in the sequence might have been established by the Egyptian 18th Dynasty as a ‘trade sanctuary’, serving as a regional marketplace that managed the import of trade goods from the broader Jordan Valley region. It was likely visited and possibly overseen by various tribes or clans living in Jordan, who would have taken responsibility for and participated in the temple’s religious activities (Franken 2008).

Research on the LBA southern Levant has advanced considerably since the discovery of the temple at Tall Dayr ‘Alla. Systematic excavations on both sides of the Jordan River now include numerous settlement sites with temples. For instance, several additional LBA temples have been excavated at Pella (Bourke 2012), Lachish (Weissbein *et al.* 2020), Tel Kitan (Eisenberg 1993: 881) and other locations (see also Greenberg 2019: 272–353; Susnow 2021).

Importantly, excavations in layers contemporaneous to the temple on the southern slope of Tall Dayr ‘Alla were conducted from 1994 onward (Ibrahim and van der Kooij 1994; 1997; Kafafi 2009a; van der Kooij 2006; 2023). These excavations revealed evidence of a settlement associated with the temple complex. The discovery of clay tablets from one of these buildings on the south slope of the mound (de Vreeze 2019; Kafafi 2009b; van der Kooij 2014) established a direct connection with the temple complex, where similar tablets had also been found (e.g., Franken 1964b).

These discoveries provide new insights into the nature of the LBA at Tall Dayr ‘Alla and the functioning of the temple, which seems to have been part of a settlement at least partly engaged in scribal activities. All this together warranted a reinvestigation of the LBA temple sequence at Tall Dayr ‘Alla.

New possibilities for an old excavation

Since excavations at Tall Dayr ‘Alla concluded in 2008, research on the site’s material has continued (e.g., Groot 2014; Kafafi 2018; Kafafi and van der Kooij 2013; van der Kooij 2023). A recent popular-science volume recounts the turbulent history of Franken’s excavation, drawing on his personal archive and excavation documentation (Steiner and Wagemakers 2019). New studies have also addressed the enigmatic clay tablets from the LBA temple, exploring their implications for Late Bronze Age literacy and suggesting links to the temple’s ritual function, although their script and contents remain undeciphered (de Vreeze 2019; 2022). Further clarification will likely depend on the discovery of additional tablets or inscribed objects still buried in unexcavated LBA contexts. These and other publications reflect ongoing interest in LBA Tall Dayr ‘Alla, although most rely on previously published material, which poses certain limitations.

Comprising original drawings, notebooks, registers, correspondence and photographs, the excavation archive has been moved multiple times and was intensively used by Franken and his students. Due to its deteriorating condition, a digitization project was

initiated to preserve the materials and improve accessibility through the DANS online repository (van der Kooij *et al.* 2009). Despite some losses, the archive still holds valuable unpublished data, including detailed room drawings with plotted find locations. Its research potential was recently demonstrated in a pilot study on the Iron Age I Phase B ‘furnaces’ (Halbertsma 2019a; 2019b). Importantly, the archive also contains extensive documentation of the LBA temple excavations, prompting renewed interest in further work at Tall Dayr ‘Alla, especially concerning unresolved questions about the LBA temple complex.

The 2022 field season

To this end, the authors conducted a short field season in autumn 2022¹ with three main objectives: first, to clean selected parts of the LBA temple from later debris and assess their condition, a necessary step toward future research and conservation planning. This involved carefully exposing surviving walls, floors and cross-sections; second, depending on preservation, we aimed to remeasure the temple’s architecture, supplement missing data from the 1992 site report and create new detailed plans using photogrammetry and traditional drawing. This work sought to verify published elevations, trace temple phases across Franken’s excavation squares and examine their relationship to the adjacent ‘stone structure’ north of the temple (Franken 1992: 13–15); finally, the project included a small-scale ¹⁴C sampling project, targeting floors and pockets of burnt material to refine the site’s absolute chronology beyond the relative dating provided by the ‘Tausret vase’. Since Phase E ended in a major conflagration, it was a primary focus for sampling, along with the slightly later reconstruction phase (F), to improve chronological resolution.

Before starting any formal work in the temple area, it was essential to re-establish the 1960s excavation grid to identify promising temple areas based on preservation and scholarly potential using the published plans. With the help of surveyor Muwaffaq al-Bataineh, a former member of the Yarmouk University team, several fixed points from the later excavations directed by van der Kooij and Kafafi were re-established. Their grid was based on the original 1960s grid, which was no longer in place. Using van der Kooij’s survey maps, we estimated the boundaries of Franken’s grid and aligned a Total Station to this local reference. This enabled us to relocate the original corners of Franken’s stepped trench, which

¹Fieldwork took place 8–27 October 2022.

were subsequently marked with rebar stakes, and allowed us to subdivide the area into the 5 × 5 m squares used in his excavations.

With the grid re-established, we had to prioritize areas of the temple and surrounding buildings for cleaning efforts due to the limited time available. Given their proximity to the modern surface and their scholarly importance, priority was given to Franken's squares D, E and G (see Franken 1992: fig. 2-1), which include the room identified as the temple's *cella*, a central feature. Franken also conducted a 'deep sounding' through the *cella* floor, creating a key cross-section through the entire temple sequence down to the earliest Phase A temple. Finding the remains of this sounding was therefore essential for studying the stratigraphic sequence and for targeted radiocarbon sampling from secure floor contexts. This work would also help clarify the relationship between the LBA temples and the nearby 'stone structure' (see below).

We also targeted square N where Franken had found several of the clay tablets mentioned above (see Franken 1992: fig. 2-1), located several metres east of the *cella*. According to the published sections (Franken 1992: fig. 4-13), this area not only provides additional context for the tablets but also offers an opportunity to re-measure the stratigraphic sequence linking the temple's final phases to Franken's first phases of the Iron Age, Phases A and B (see Franken 1969: 33–43).

In total, four trenches were opened, roughly corresponding to Franken's squares D, E, G and N (see Franken 1992: fig. 2-1). Trench 1, located near the *cella*, was not explored further due to time constraints. Trench 2 aimed to expose the west wall of the *cella*, while Trench 3 sought to re-establish the location of the 'deep sounding' through the temple sequence and document its valuable cross-section. Trench 4 focussed on temple rooms E4, E5 and E6, where the inscribed clay tablets and other artefacts had been discovered.

Fieldwork focussed on cleaning the 1960s excavation areas within the available time, primarily by removing slope wash accumulated from decades of erosion and limited backfill from both the 1960 and 1994 seasons (see below). All exposed architectural features were documented through drawings and photographs, and 3D models were produced using photogrammetry. Radiocarbon and micromorphological samples were collected from floors, debris, sections and installations (see below). After the 2022 season, all areas were covered and backfilled to protect them from further erosion.

Trenches 2 and 3 (the cella)

Cleaning the northern part of the *cella*, the west wall and the stone structure to the north confirmed the accuracy of the reconstructed grid. The expected location of the *cella*'s northern pillar sequence, based on the original plans and the re-established grid (see Franken 1992: fig. 2-5), was quickly identified beneath the slope wash, revealing a substantial stone pillar. The east section of the deep sounding also aligned precisely with the re-established grid. Remarkably, halfway down the weathered section, covered by backfill and slope wash, the remains of a nail and rope (Fig. 4) were uncovered. These had been part of an original line-level used by Franken (who drew all sections himself) to create the cross-section of the 'deep sounding' (Franken 1992: fig. 2-5). Consequently, both the temple's northern pillar sequence and Franken's 'deep sounding 2' within the *cella* were successfully relocated, and the latter reopened to investigate the temple's earliest phases.

Work inside the *cella* heavily relied on Franken's fig. 2-5 from the 1992 publication (Fig. 5). This section presents Franken's five main temple phases: Phase A (the earliest recognized one so far) through Phase E (the final temple destroyed in a fire), and confirming this sequence was a key objective of the 2022 season. Franken attributed the stone pillars to phases D and E, possibly extending into earlier phases. The stone structure is visible at the far northern side of the east section (see Fig. 5, lower left, shown by three bold lines indicating stones). Franken did not link it to a specific temple phase; he interpreted it as a terrace wall protecting the temple's steep northern slope (1992: 13). Alternatively, others have suggested that it may be a Middle Bronze Age town wall or gate, reused in the LBA as a foundation for the temple (Steiner 2023: 237; van der Kooij 2006: 218).

After clearing, cleaning, remeasuring and redrawing the preserved architecture, we compared our results with Franken's original field drawings and photographs (e.g., Fig. 7), leading to several important insights. First, it seems that Franken's fig. 2-5 (Fig. 5) is a compilation of multiple section drawings made in the field, including east and west baulks through the *cella* and sounding 2. In preparing this composite for the 1992 publication, some inaccuracies appear to have been introduced, possibly originating from the field drawings themselves, the compilation process, or misinterpretations of the stratigraphic sequence. Our research provided a crucial new understanding of the temple phasing (see below).



Figure 4 Nail and piece of rope surviving from 1964 in the east section of Franken's sounding 2 (image by authors).

The Pillar Sequence

After removing 1–2 m of slope-wash and debris deposited during a 1994 backfilling effort (van der Kooij pers. comm.), the northern part of the *cella* was uncovered, exposing the northern pillar sequence. Only one pillar stone remained *in situ*, with two others found upright nearby. These had likely been displaced after the 1960s excavations were halted and appeared to have washed into the deep sounding. It was initially

unclear whether the *in situ* stone represented the lowest pillar stone (St 5 on Franken 1992: fig. 2-5; Fig. 5) or a higher one. Our measurements placed it at -215.55 m rather than -216.25 m as recorded for the lowest pillar stone in Franken's section. Examination of the layer beneath confirmed it as the lowermost pillar stone (St 5). Surprisingly, original field drawings of the individual stones further supported this identification, placing the lowermost pillar stone at -215.30 m. Since the stone

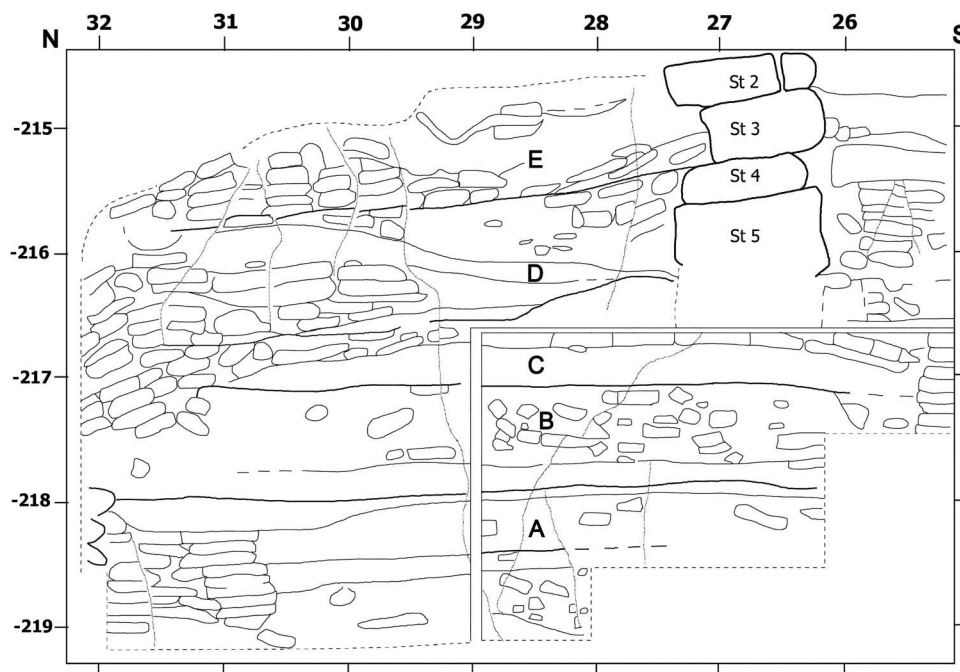


Figure 5 Phasing of the cella (after Franken 1992: fig. 2-5).

rested on a floor at -215.55 m, with no stones below it, we determined that the stratigraphy in Franken's 1992 fig. 2-5 is inaccurate by nearly one metre. This inaccuracy was consistent across the trenches we opened and was likely an error introduced by one of Franken's fixed points.

The west wall

Franken described the temple's west wall as elusive and difficult to identify in the field, noting its disintegrated mudbricks and heavy disturbance by later pits (Franken 1992: 25). Upon re-exposure, however, the wall proved to be a substantial mudbrick structure about 2 m wide, built on a stone foundation three rows wide and three to four stones high. Franken had observed the stone foundation at the wall's northern end but interpreted it as part of the large 'stone structure' north of the *cella* (Franken 1992: 13) which will be discussed below. Our work revealed that this substructure extended southward and formed part of the Phase E temple's west wall (now designated T2.1–2). The smaller stones of T2.2 abutted the 'stone structure'. At the northern end of the wall, the mudbrick superstructure (T2.1) was indeed eroded or missing, as Franken described, but farther south, where erosion was less severe, it could be traced more clearly (Fig. 6, Fig. 10). With the wall's base at -216.90 m, it appears to have been constructed during temple Phase D and re-used in Phase E (see below).

The stone structure

The stone structure immediately north of the temple (Fig. 8) was first uncovered in 1961. Franken described it as consisting of two parallel east–west walls, each about 6 m long, connected by two north–south walls approximately 4.75 m long, forming what initially appeared to be a casemate wall (Franken 1961: 364). In 1964, an additional 4 m of the northernmost wall was uncovered (Franken 1992: fig. 2-4; Fig. 9). Franken's section drawing, fig. 2-5, depicts three stones of this structure, with their highest elevation at -218 m, though it remains unclear whether the Phase B temple floor abutted or overlapped these stones.

The 2022 season showed that this structure was neither part of an earlier Middle Bronze Age wall or gate, nor a retaining wall for the temple's north slope, but was part of the temple sequence itself. A detailed review of Franken's original drawings and photographs confirmed that its walls did not extend further east or west: no additional walls were observed

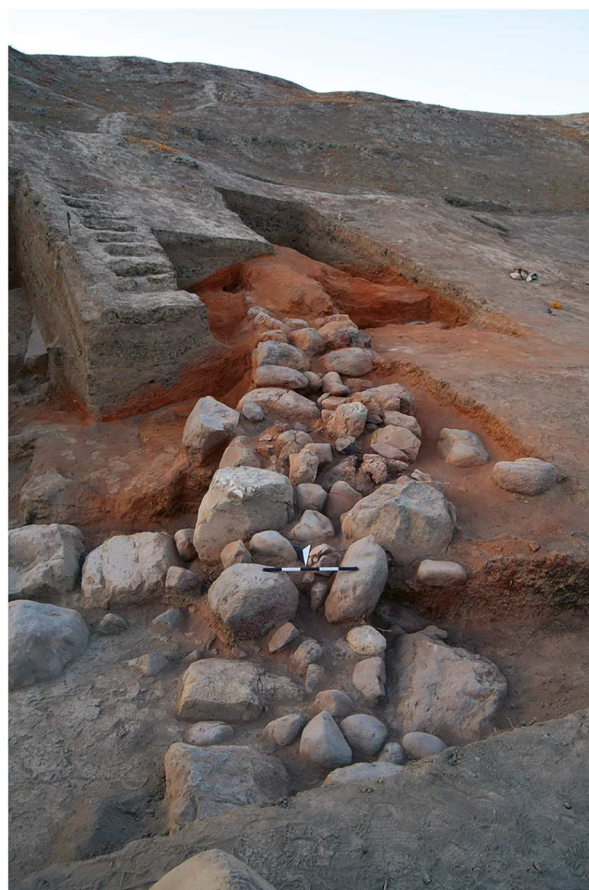


Figure 6 Photo of west wall T2.1–2 of the *cella*, looking south. At the north side, only the stone foundation remained, while more to the south, the heavily burnt mudbricks on top are still visible (image by authors).

in rooms 7–9 west of the *cella* (Franken 1992: fig. 5-1), in pilot trench D950 of 'deep sounding 1' (Franken 1992: fig. 2-3), or in sounding 3 east of the *cella* (Franken 1992: fig. 2-7). This indicates the structure was at most 10 × 5 m. A new drawing of the northern section of sounding 2 (Fig. 12) shows that the placement of its southern wall stones in Franken's fig. 2-5 is incorrect: the three stones are resting on top of, not beneath, surface D822, which overlays the Phase A temple's northern mudbrick wall. The base of the lowest stone is at -218 m, and the top of the highest is at -217 m. Therefore, the stone structure was built on the Phase B construction surface and belongs to the Phase B temple. The stone layer, which still contained visible mudbricks in 1961, is approximately 1 m high. It likely served as the northern wall of the Phase B temple, supporting the steepest slope of the mound. Unlike temples D and E, which are aligned ESE–WNW, the stone structure is aligned east–west (see also Franken 1992: fig. 3-1).



Figure 7 Two photographs of Franken's stepped trench in 1964 (photo courtesy of the Tall Dayr 'Alla Project).

Implications for the temple phasing

Essentially, our work validated Franken's phasing, albeit with some important corrections that significantly revise the temple's architectural sequence and could have notable implications for understanding its phases in the LBA.

Phase A represents the earliest temple phase, which Franken (1992: 1) dated to the beginning of the LBA, in the 16th century BCE. It comprises mud-brick wall D544-D545 and D810 in sounding 2.

Franken (1992: 15) noted the wall's east-west orientation, suggesting it served as the north wall of the Phase A temple. Directly south of this wall, hard mud-brick debris contained a cache of pottery in Locus D539 (Franken 1992: 115–21, figs 7-1–3). Franken interpreted this cache as a deliberately buried 'hoard' beneath floor D538 (Franken 1992: 115). Field documentation, however, describes Locus D539 not as a pit but as a 'hard clay layer under floor D538', and as a 'typical destruction layer with

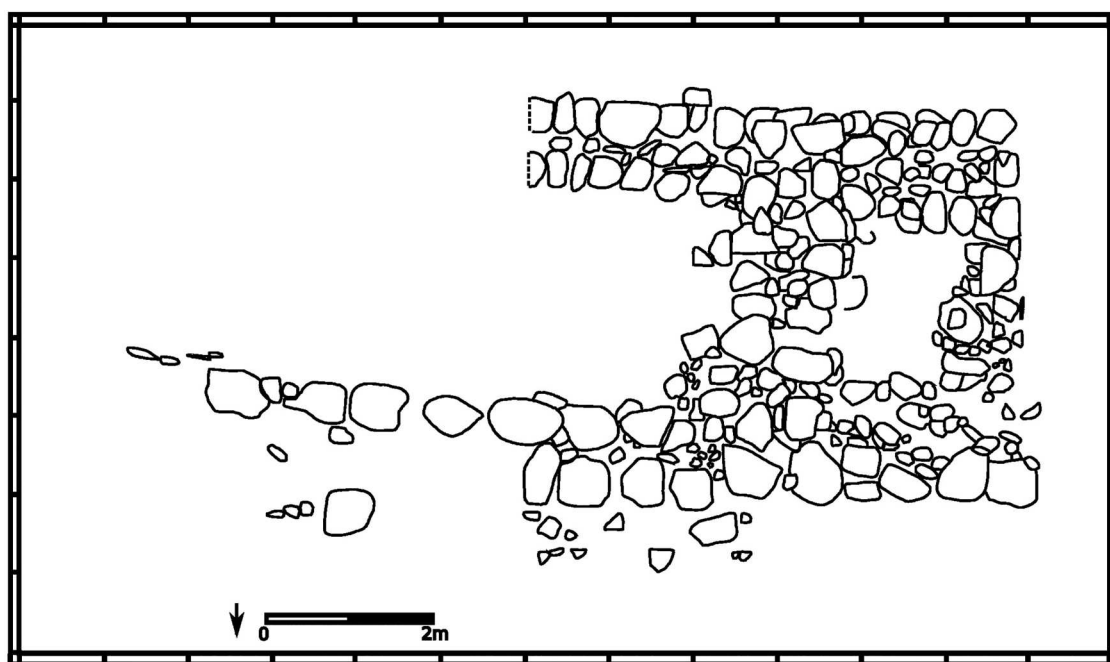


Figure 8 Plan of the stone structure (after Franken 1992: fig. 2-4).

irregular mudbricks'. Since floor D538 appears to extend over wall D544, layer D539 is better understood as the destruction layer of the Phase A temple. The pottery cache, then, is lying in destruction debris just above floor D540 of the Phase A temple.

Phase B is poorly documented by Franken, who only assigned some mudbrick layers to this phase

without identifying walls. Our research suggests that the stone structure was the north wall of the Phase B temple (see above). Floor D822 acted as the construction surface, extending over the remains of Phase A, with the stone structure built on top, not beneath it, as shown in the new section drawing of sounding 2 (Fig. 12). If confirmed by further



Figure 9 Photo of the stone structure in 1964, looking north (courtesy of the Tall Dayr 'Alla Project).



Figure 10 Orthorectified plan taken from the 3D model, showing preserved temple architecture (image by authors).

excavations, this indicates the Phase B temple was extending slightly north of Phase A and was more robust and monumental, featuring a substantial north wall with a stone foundation instead of mudbrick. No eastern or western walls have been identified so far, so the temple's exact dimensions remain unknown. Yet, the substantial northern wall implies

a sizeable structure, with the same orientation as the Phase A temple. Associated finds include a gold-leaf amulet, 15 complete pots and 53 pottery sherds (Franken 1992: 121–26).

The existence of Phase C remains questionable. Franken's fig. 2-5 depicts it as a thin mudbrick debris layer (D532, 30 cm thick) above floor D533: however, the north wall of the Phase D temple was constructed directly on this floor. No complete vessels were discovered, only 24 pottery sherds (Franken 1992: 126, fig. 7-8). Our research indicates that D532 consists of thin, horizontal clay bands beneath the northern wall of the Phase D temple (Fig. 11), likely used as fill during its construction on top of the debris from Phase B. If this interpretation is correct, it suggests there was no Phase C temple; rather, these layers represent the levelling of Phase B remains in preparation for Phase D.

The Phase D temple shows different building techniques and orientation (NWW–SEE) compared to Phase B, as observed in the sections from sounding 2. Its north wall (D528) was constructed of mudbrick, at least five bricks wide, rather than stone, and rests on surface D533 at -217 m (Franken 1992: fig. 2-5), extending south of the stone structure. As described above, the west side, uncovered by both Franken and us, features a stone foundation, whereas the east wall remains unexcavated. The lack of a stone foundation for the northern wall remains puzzling, especially considering the remnants of the Phase B

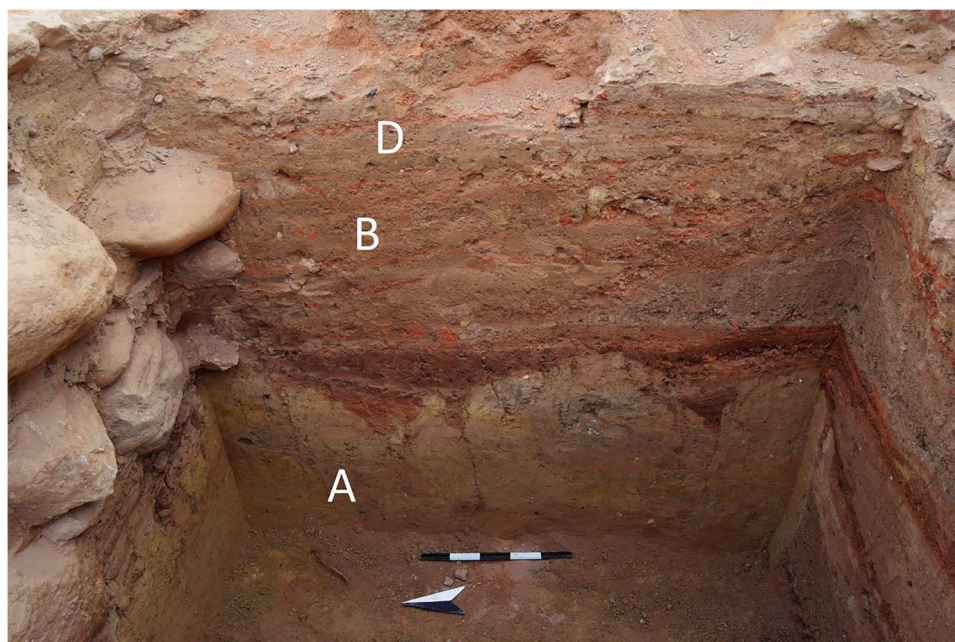


Figure 11 New phasing of the east section in sounding 2. Note the thin clay bands visible in Phase D and the red burnt mudbricks of this phase's north wall at the top of the photo (image by authors).

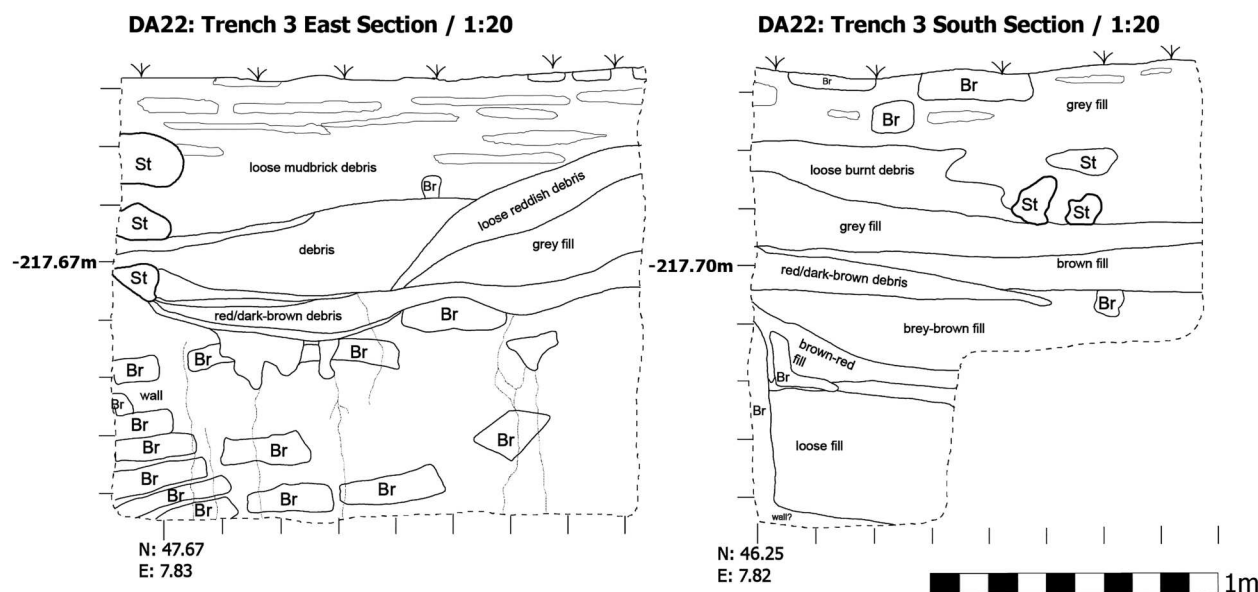


Figure 12 East and south section drawings of deep sounding through cella made in 2022 (courtesy of the Tall Dayr ‘Alla Project).

wall just north of it. No complete ceramics or objects appear to have been recovered from the floor and debris of Phase D, with only 85 pottery sherds recorded (Franken 1992: 128–31).

Phase E appears to be a continuation of the Phase D temple, reusing its north and west walls, with the same orientation. The *cella* contained two pillars (Franken 1992: fig. 3-1), built of several stones on top of each other, with the northernmost pillar uncovered again during the 2022 season. Although Franken did not excavate the east wall, his 1992 fig. 2-8 shows that this wall was visible on the east side of sounding 3. Most objects and pottery sherds reported in 1992 are attributed to this phase.

Trench 4 (Rooms E3, E4 and E5)

Trench 4 was opened in Franken’s square N (see Fig. 13), 10 m east of the *cella*. It aimed to evaluate the condition of the walls and to expose part of the southern section for ^{14}C sampling across the LBA and Iron Age I phases. Since Franken had backfilled the square, preservation was better than expected. Walls were uncovered with relative ease and could be compared to plans and photographs from the digitized 1960s archive.

Only a small part of Room E4 was exposed; we cleaned its eastern wall 106 (now T4.10) and uncovered some undisturbed debris (T4.8 and 9), all related to the Phase E temple and its destruction. We also cleaned parts of Franken’s Rooms E5 and E6 slightly higher up the slope, where we found the south section nearly as fresh as if the excavators had just finished excavating

there. A new drawing of the south section of this area was created, and botanical and micromorphological samples were collected (see below).

The following loci were identified during re-examination of this trench (see Table 1).

The enigma of Room E6

Perhaps the most significant discoveries from the Phase E temple are the inscribed clay tablets found in rooms E4–E6 in 1964 (de Vreeze 2019; 2022; Franken 1964a; 1964b; 1965; van den Branden 1965). According to Franken (1992: 67), two clay tablets were discovered in Room E6, within a narrow area of 2.0×0.5 m, along with 12 ceramic vessels, a *kernos* ring and a fragment of a fenestrated pot (Franken 1992: figs 4-24, 4-25). Recorded as context ‘N310’, no published photographs clarify how so many objects were retrieved from such a confined space, although Franken (1992: 67) explained that ‘pottery and objects were piled up here’.

During the 2022 clearing of Room E6, it became evident that Franken had excavated only a small part of the room. He uncovered its northern and eastern walls (Walls 309 and 308; Franken 1992: fig. 4-12), had excavated onto the top of Wall 309, but had not extensively excavated within the narrow space. His reason for stopping remains unknown, but Franken (1992: 67) noted that ‘the registered pottery was stored in Deir ‘Alla to await further excavation of this room’, likely due to the limited space for secure excavation. Unfortunately, this pottery was lost, and the rest of Room E6 stayed unexcavated. Franken then continued north of Wall 309 into

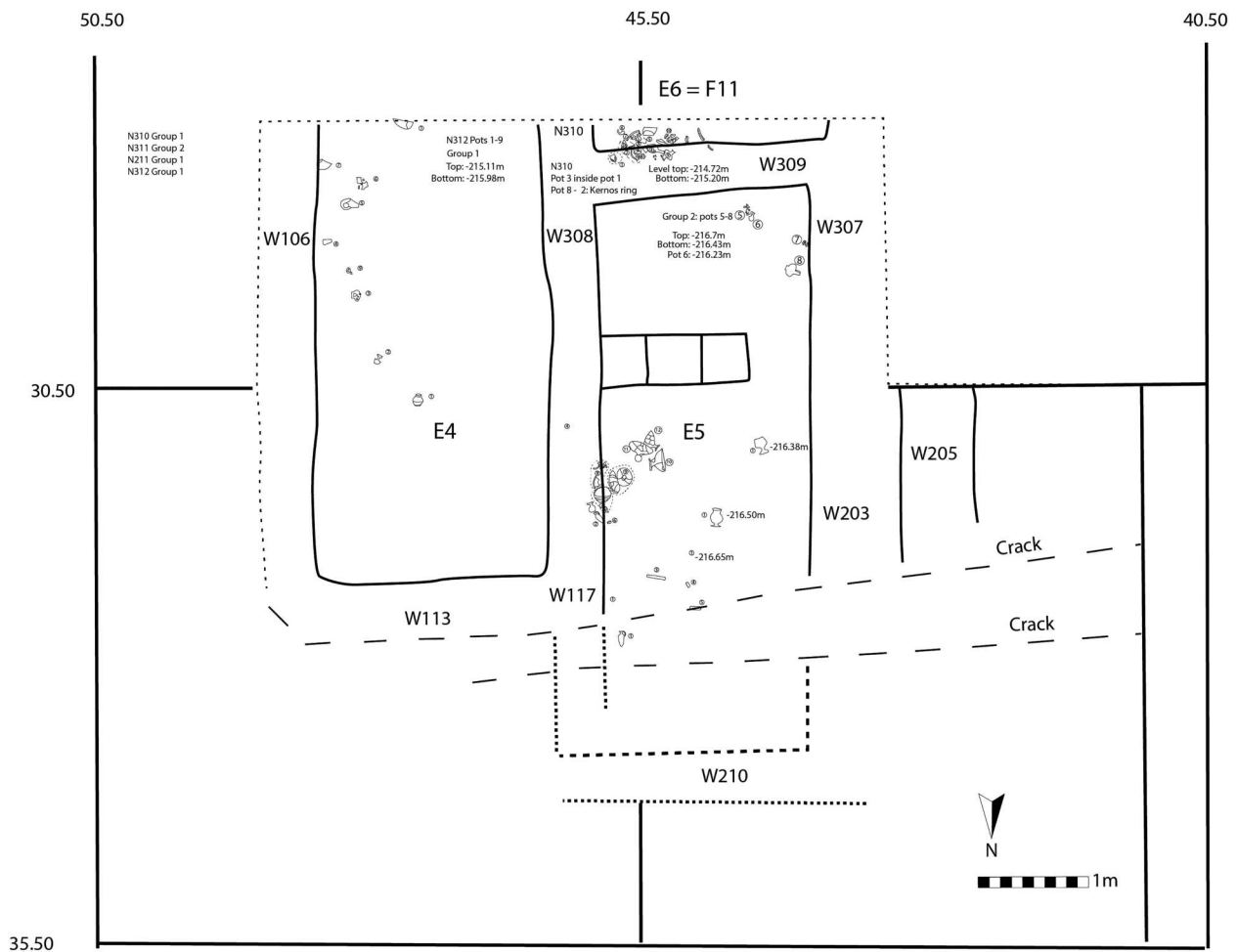


Figure 13 Plan of Rooms 4–6, Square N (after Franken 1992: fig. 4–12).

Room E5 (Franken 1992: 61), whose floor was significantly lower than the level reached in Room E6.

During the excavation of Room E6, Franken removed approximately 0.5 m of fill between the north–south walls extending from the southern section (one unnamed, the other W303; Fig. 14, Fig. 15). In his original section drawing (Fig. 15), this fill ends in a ‘layer of pottery’ (noted as ‘aardewerklaag’ in Dutch), a detail omitted from the schematic inked drawing in the 1992 publication (Franken 1992: fig. 4–13). This layer probably corresponds to the find concentration at context N310, though no direct documentation confirms this. An original plan from the archive (Fig. 16) offers further detail, showing an unusual top-down plan with several groups of objects and mud-bricks. The plan, lacking a north arrow and scale, seems to have been drawn using multiple measuring lines to depict ceramic groups separately. The mud-bricks likely represent the dividing wall in Room E5 (see Fig. 13), while object groups relate to finds from rooms E4, E5 and E6. One group, labelled N310, notes a *kernos* ring, probably indicating the original

context location for N310. One of the drawing lines includes a 1:10 scale, which Franken typically used for drawing object concentrations. This scale seems consistent with the rest of the plan, as does Franken’s description of a pile of pottery and objects. Digitally tracing the plan shows that the N310 find group aligns with the south-west corner of Room E6 (Fig. 17), where the pottery layer appears in the original section and possibly in the photograph, suggesting it was partly placed atop the stump of Wall 309.

Additional evidence is provided by the recorded top and bottom elevations of this find group. Franken measured its top at -214.72 m and its bottom at -215.20 m, giving a height of nearly 0.5 m. While the cluster containing the *kernos* ring was discovered *in situ*, it was published as part of context N310: the complete 1.5 × 0.5 × 0.5 m fill excavated between the upright walls. These levels also correspond with those marked on Franken’s original and published sections. Considering the third dimension, clarifies how this number of finds came from a relatively narrow area. The lowest level reached by Franken in

Table 1 Loci distinguished in re-examined section Trench 4 (N/300)

Trench	Locus	Description
4	1	Mound surface
4	2	Backfill of 1964 excavations
4	3	Uppermost fill inside room 6. Dark brown ashy clay with lumps of burnt mudbricks. Botanical sample taken
4	4	North wall of room 6, made of mudbricks = Franken's wall 309
4	5	East wall of room 6, made of mudbricks = Franken's wall 308
4	6	Lowest layer of burnt black debris in room 6, under locus 3. Botanical samples taken
4	7	Layer of hard clay, blackened. Possible surface of room 6. Underneath locus 6. Some seeds on this floor were sampled for ¹⁴ C dating
4	8	Destruction debris and burnt mudbricks east of Franken's room 4. Botanical samples taken
4	9	Ashy clayey deposit within room 4. Botanical sample taken
4	10	East wall of room 4, made of mudbricks = Frankens wall 106
4	11	Stump of mudbrick wall, possibly part of wall 13
4	12	Layer of ashy/dark earth underneath wall 13, separating it from wall 20
4	13	East wall of room 6, on top of wall 5, separated by layer 12. Rebuilding of room 6 walls
4	14	Mudbrick wall at west side of locus 3, concurrent with wall 13
4	15	Thick destruction layer on top of loci 3 and 14. Only visible in south section
4	16	Wash layers on top of 15. Only in section
4	17	Layer of burnt brick material on top of 16. On top of 17 is a clear surface, possibly to level the area for further use. Only in section
4	18	Thick deposit of courtyard layers on top of surface 17. Only in section. Botanical sample taken
4	19	Another thick deposit of courtyard layers on top of 18. Botanical sample taken
4	20	North wall of room 6, built on top of wall 11. Equals locus 5

Room E6 was at -215.65 m, slightly below the N310 group. An evident error in the linked section drawing in the 1992 publication (fig. 4–13a), likely due to the long publication delay, places ‘room 6’ and ‘N310’ far below their actual positions.

The small part of Room E6, re-exposed in 2022 (Fig. 18), confirmed that excavations had not extended south of the top of Wall 309 into Room E6 proper, a room belonging to Phase E (see below). Moreover, no additional ceramics were visible in the cleaned section, suggesting that the N310 find cluster represents a small, discrete deposit rather than a pottery-rich fill spread across a broader surface.

A limited probe behind this wall uncovered a narrow context containing a plastered basin, sealed with a small stone slab and filled with burnt organic material. Several botanical samples were collected from this context for radiocarbon dating (see below). During Franken's original excavations, the lowest level reached in Room E6 was -215.65 m, while the floor levels of Rooms E4 and E5 were at -216 m. Our 2022 measurements place these at -214.65 m and -215.245 m, respectively (Fig. 14). Overall, Franken's Room E6 appears to represent a brief rebuilding phase after the Phase E destruction, corresponding to Franken's Phase F.

Stratigraphic implications of Room E6

To avoid confusion regarding terminology, it is essential to define each room number within this specific context (see Table 2). Franken appears to have misassigned Room E6 to the wrong archaeological phase; it is now recognized as part of Phase F. Consequently, Franken's description of Room E6 should now be referred to as Room F11 (Rooms F1–10 are listed in Franken 1992: 96–97), while the room directly south of Wall 309, which Franken intended as Room E6, remained unnamed in his 1992 report.

The stratigraphy of Trench N/Trench 4 at Tall Dayr ‘Alla can be reconstructed as follows. During Phase E, the area contained at least three rooms, recorded by Franken as E4, E5 and E6. Room E6 proper (south of Wall 309) was never excavated. Rooms E4 and E5 yielded several artefact clusters, including clay tablets. The Phase E destruction filled these rooms with debris, creating a post-destruction surface that, along with preserved wall stumps, served as the foundation for Phase F buildings, likely again associated with temple activity (see below). The remains of Room F11 are visible in the section drawing (Figs 14 and 15). Franken's excavations in Room E6 stopped at this level. The basin encountered in 2022 was cut into this surface, probably belonging to a Phase F building or immediately preceding it. It was subsequently covered by the artefact concentration (N310) and ultimately debris from the Phase F destruction. Importantly, the finds documented as N310, including the two clay tablets, thus likely belong to Phase F (see below).

Radiocarbon and micromorphology sampling

The precise timeline for the Late Bronze Age to Iron Age transition in the Levant remains widely debated (e.g., Boaretto *et al.* 2019; Knapp and Manning 2016; Manning *et al.* 2020; Orduña 2024; Webster

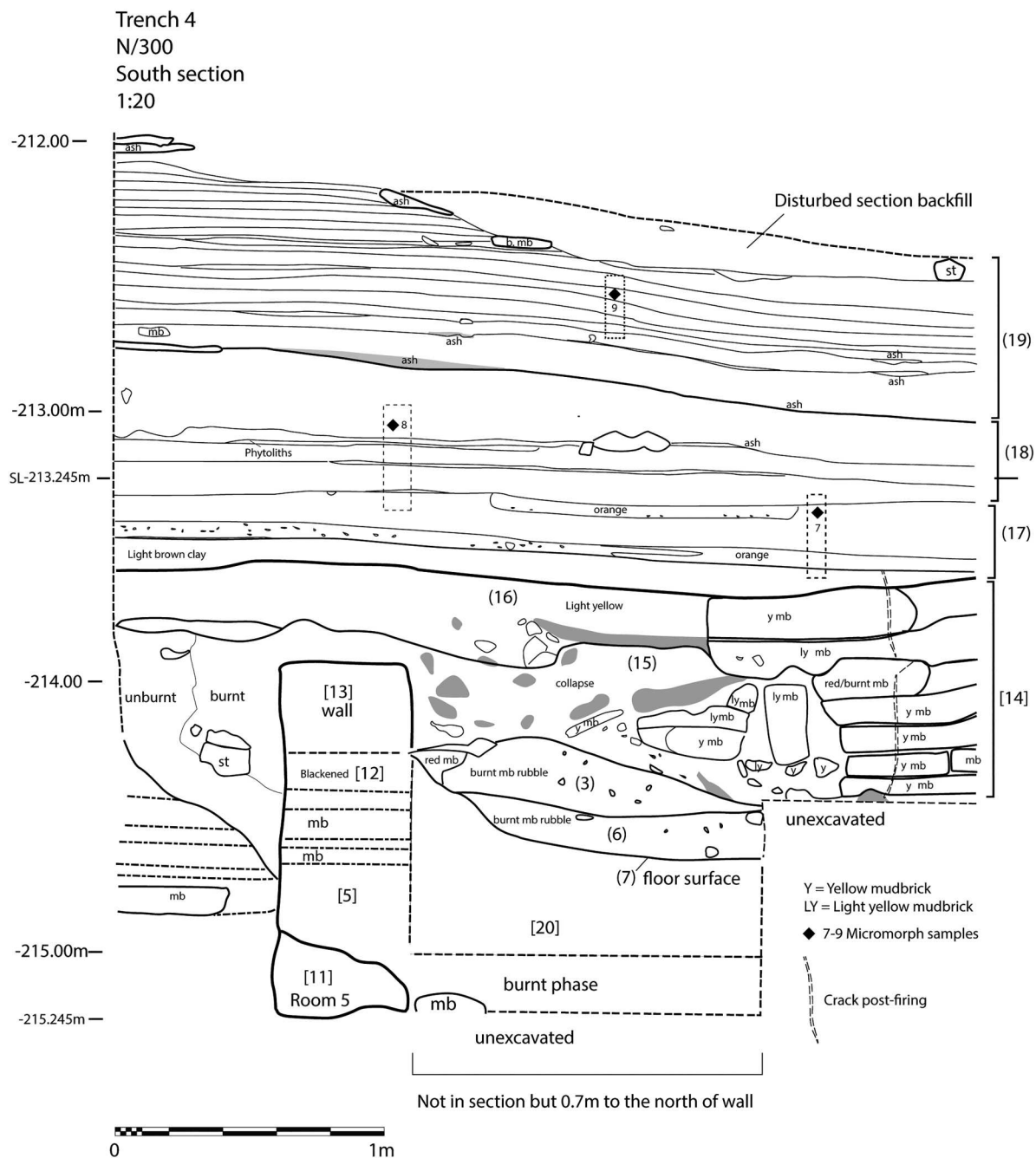


Figure 14 Re-drawn part of exposed south section Trench 4 (image by authors).

et al. 2023), making the dating of the final phases of Tall Dayr ‘Alla’s LBA temple particularly important. The destruction of Phase E, followed by brief rebuilding in Phases F and G, marks the latest LBA periods in the region. Additionally, Phase E is significant for the discovery of the ‘Tausret vase’, which provides a well-preserved short-term historical marker linked to the end of Egypt’s 19th Dynasty. Previous absolute dating of Phase E, based on a wooden beam, is unreliable due to the ‘old wood’ effect and cannot precisely determine the end of Phase E. Our aim, therefore, was to collect short-lived samples from key contexts: the

eastern part of the ‘deep sounding’ through the *cella*, which spans all temple phases (Fig. 5), and the southern section of Trench N (Fig. 14), covering the final LBA sequences into Iron Age I. Samples from these two locations could date both the LBA temple phases and the transition into the Iron Age I. Ultimately, only Trench 4 yielded suitable short-lived botanical samples for radiocarbon dating (Table 3), taken from Phase E (Room E4) and Phase F (Room F11). Additional samples from Iron Age I courtyard layers were not suitable, but micromorphology blocks may provide further material.

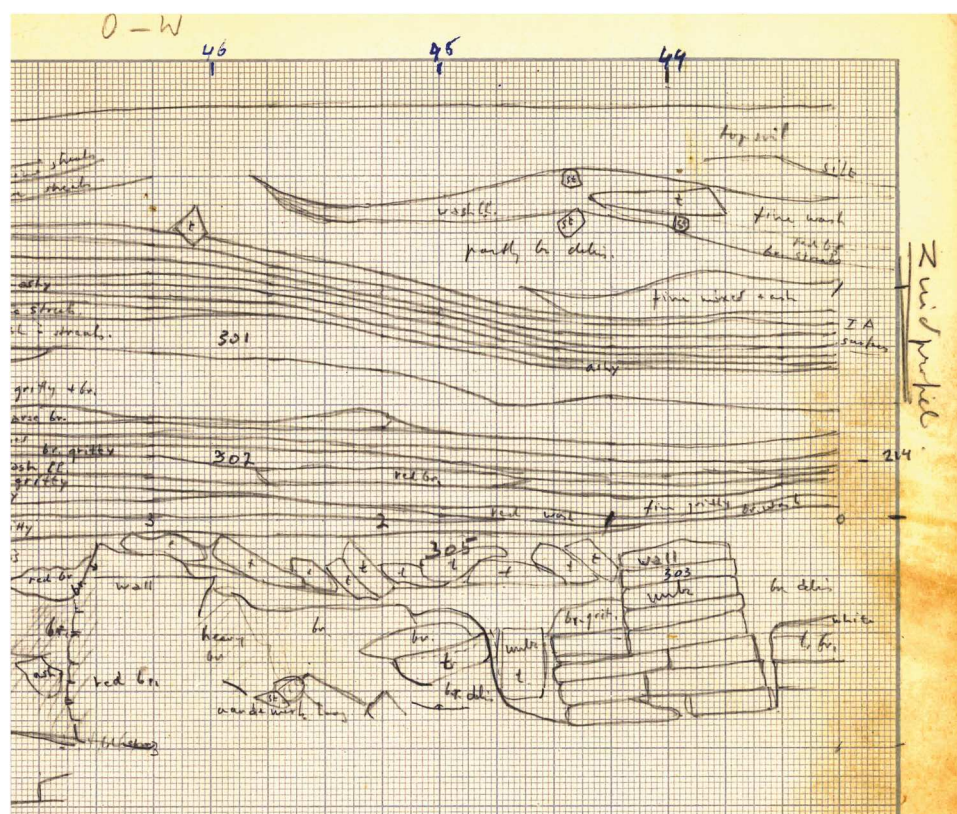


Figure 15 Part of the original section drawing of Trench N's southern section. Note 'aardewerklaag' (layer of pottery) scribbled bottom-left, just inside the left wall (courtesy of the Tall Deir 'Alla Project).

Micromorphology samples were collected from the Iron Age levelling and courtyard layers overlying the LBA temple in order to better understand these deposits and refine chronologies between phases. During the 2022 season, samples were taken from three locations along the Trench 4 section (Fig. 14). Thin sections have been prepared from these samples and are currently awaiting further analysis.

The botanical samples were examined by Dr Ceren Kabukcu (University of Liverpool), and radiocarbon analyses were performed at the Centre for Isotope Research at the University of Groningen. Five short-lived seed samples from stratigraphically secure contexts (including barley/wheat, a grape pip and legumes; Table 3) were submitted for radiocarbon dating (Table 4). Two main conclusions emerge. First, the samples establish a reliable sequence for Phases E and F: burnt fill layers from Room F11 (Loci 3 and 6) yield slightly later dates for Phase F, following the Phase E destruction (Samples 4 and 6 from Loci 8 and 9 in Room E4), confirming that the destruction of Phase F closely succeeded that of Phase E, as previously suggested (Franken 1992: 176–77). Second, the dates cluster at the end of the 12th century BCE, forming a consistent sequence

that aligns with the historical timeline of Tausret's reign (Fig. 19).² These results, alongside comparative southern Levantine dates, will be further assessed to refine the chronology of Phase E's end, Phase F and the terminal Late Bronze Age (LBA III) (de Vreeze *et al.* forthcoming).

Discussion

Reinterpreting the temple sequence and architecture

Several key insights emerge from this pilot season's re-examination of the LBA temple sequence at Tall Dayr 'Alla (Table 5). The previously established temple sequence requires revision. Although the earlier temple phases (i.e., before Phase E) remain largely unexplored, our research suggests the existence of substantial, previously uninvestigated temple structures. Specifically, the Phase A mudbrick temple appears to have been replaced by a monumental Phase B temple with a substantial stone foundation. Smaller mudbrick temples later supplanted it in Phases D–E, possibly decreasing in size over time. Indeed, the best-understood Phase E temple, heavily damaged,

²Sample 7, GrN-34007, was excluded as it produced a statistical outlier in the model. This will be investigated further in an upcoming publication (de Vreeze *et al.* forthcoming).

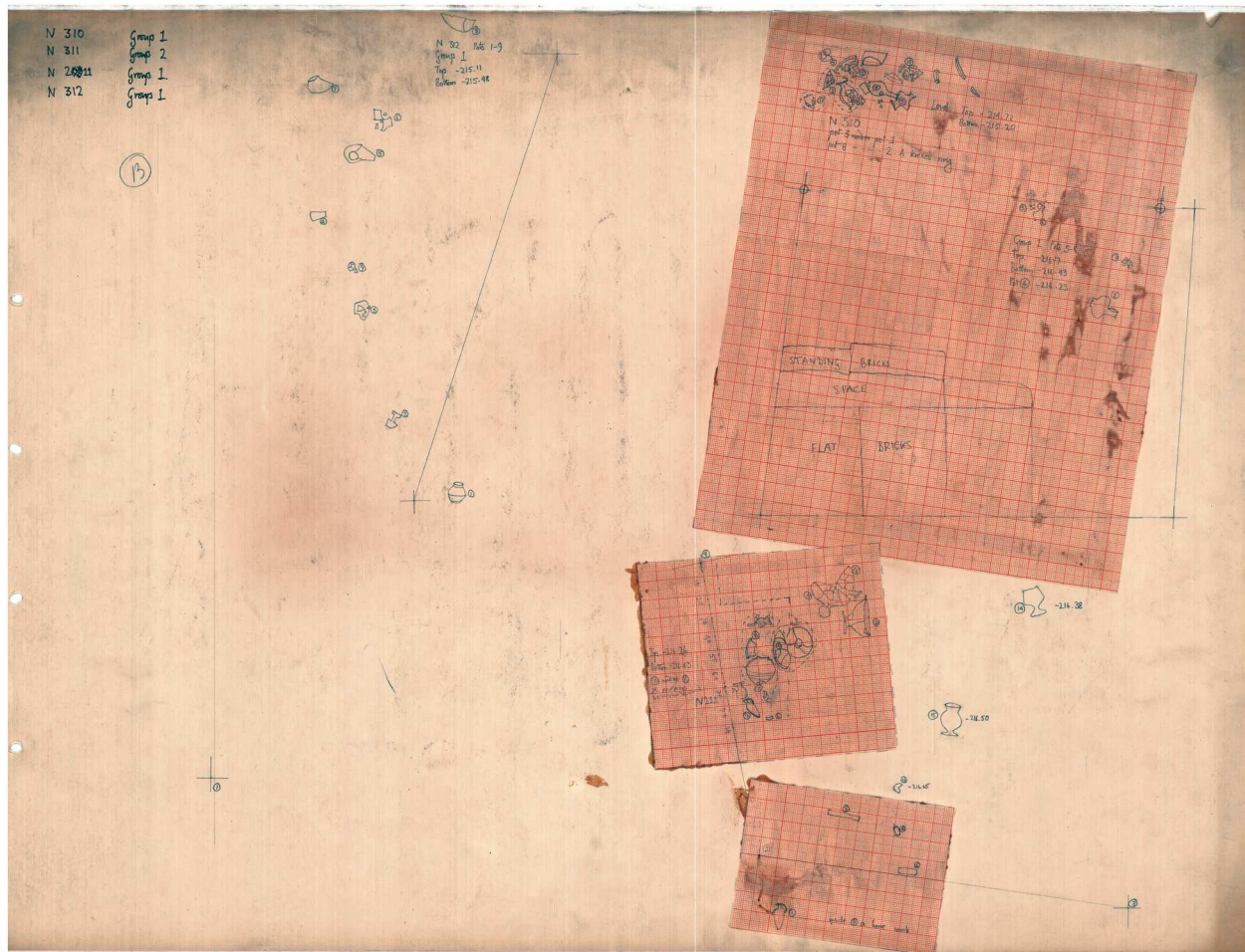


Figure 16 Unpublished plan of artefact groups in Square N. It shows Room E5 looking south (courtesy of the Tall Dayr ‘Alla Project).

appears to be a smaller mudbrick version of a successor to the Phase D temple, which itself seems to be a smaller version of the Phase B temple, although constructed with mudbricks and in a slightly different alignment. This reduction in temple size over time resembles sequences seen at sites like Pella, where monumental Middle Bronze Age tower (Migdol) temples give way to smaller LBA temples, with further downsizing in the Iron Age (Bourke 2012: 159–61, fig. 3). Nevertheless, the decrease in size of a temple founded and abandoned within the Late Bronze Age currently appears unique to the Tall Dayr ‘Alla sequence. The presence of the larger Phase B temple with a substantial stone foundation underscores its importance in settlement development, suggesting that, as with Phase E, earlier LBA phases at Tall Dayr ‘Alla may have held considerable significance. It indicates that if the Phase E temple already shows extensive connections and a rich material culture within the temple and its surrounding rooms, then similar or even greater importance could

be attributed to earlier phases, especially the monumental Phase B temple.

Considering the architecture itself, the Phase B temple offers new insights. The three stone-built rooms (the stone structure) may represent smaller storerooms on one short side of the temple. This layout does not closely align with typical LBA temple architecture in the region (Kamlah 2012), yet LBA temples often feature both formal architecture and, quite frequently, localized and informal architectural characteristics, especially in rural settings (see Greenberg 2019: 279–84). Looking for exact parallels to the architecture, the Phase B temple appears most similar to the ‘southern building’ on the southern slope of Tall Dayr ‘Alla (Phase E): a mudbrick structure with three distinct storage rooms on its southern side and an entrance on its long (eastern) side (van der Kooij 2023). The nature of this building is not yet fully understood, and although it contained burnt clay tablets, the material culture does not readily suggest a cultic function that would define it as a temple

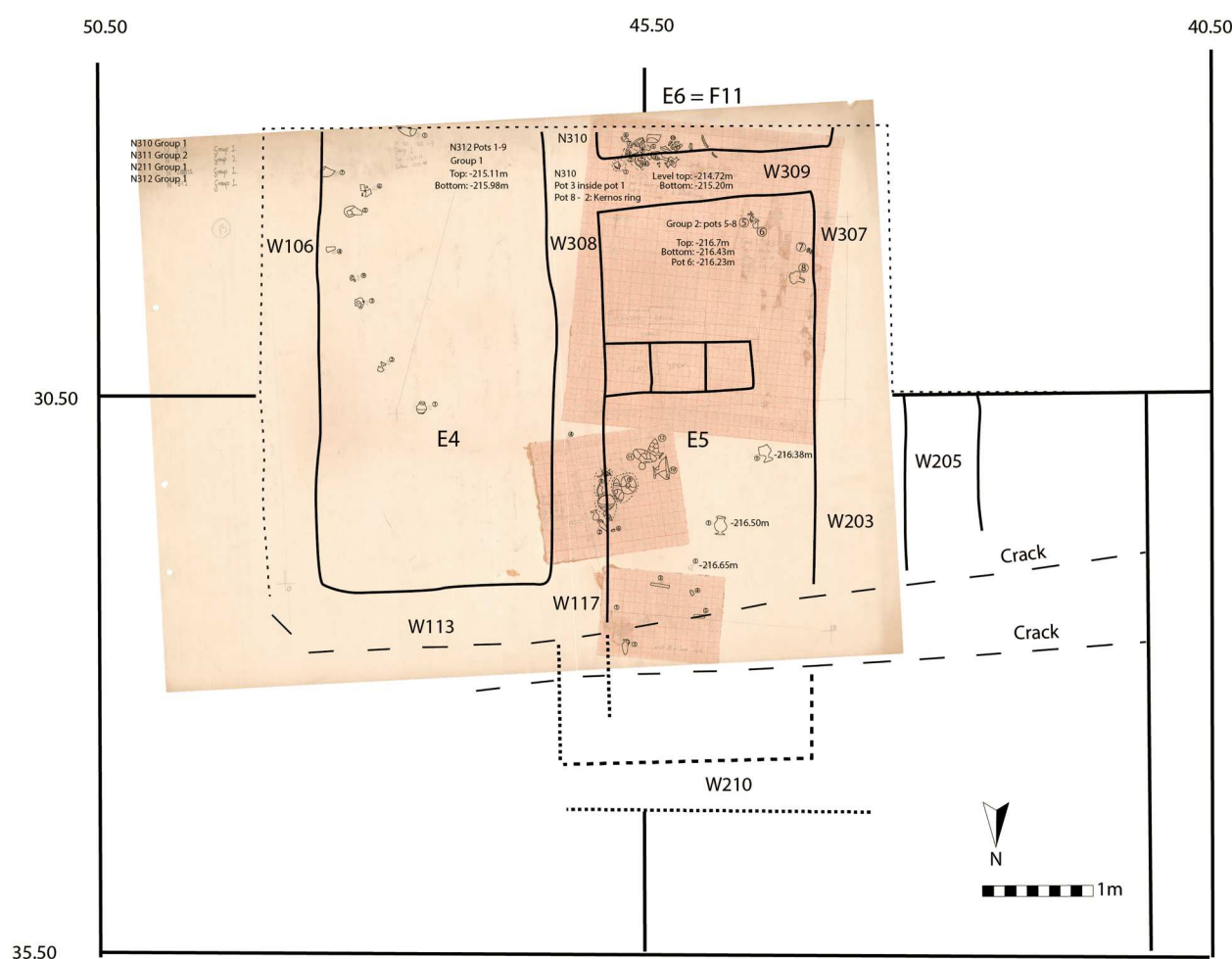


Figure 17 Plan with artefact concentrations plotted on the architecture from Trench N (image by authors).

(van der Kooij 2023; see also de Vreeze 2022). Nevertheless, the parallel with the temple on the northern slope is striking (Fig. 20): both buildings share orientation and architectural features, suggesting potential connections in site planning and development (de Vreeze 2022; van der Kooij 2023).

Even if the southern building was not a temple, it represents a substantial structure likely used for communal activities. Furthermore, its architectural similarity to the Phase B temple indicates a consistent approach to the design of monumental buildings at the site. If such an architectural tradition was already established in Phase B within the temple sequence, this would suggest a local building tradition that persisted throughout the LBA at Tall Dayr ‘Alla. It is important to emphasize that none of these buildings has yet been fully excavated. This makes further investigation of both the southern building and the temple even more essential to clarify their architectural and functional relationships.

Reinterpreting the phasing of Rooms E4–E6 and the final destruction Phases E–F

The reclassification of Franken’s Room E6 as Room F11, along with the recognition that this room dates to a later LBA occupation (Phase F) and remains nearly untouched by excavation, is highly significant. It also shows that additional unexcavated parts of the Phase F occupation still exist for further exploration, offering the chance to deepen our understanding of this phase, which directly followed the major destruction of Phase E but was itself subsequently destroyed.

If our reassignment of context N310 to Phase F is correct, it also has significant implications for understanding the persistence of cultic continuity and cultural practices, such as the Dayr ‘Alla script, after the major destruction of Phase E. As noted earlier, among the finds from the N310 group were the remains of two clay tablets (r.n. 1690 and r.n. 1693, Franken 1992: fig. 4-25.1-2). These tablets, long attributed solely to Phase E, are unique to Tall Dayr ‘Alla and have not been found at any other



Figure 18 Franken's Rooms E5 and E6 cleared in 2022. Photo looking south (image by authors).

Table 2 Renewed contextual information regarding Franken's Room E6/F11

Franken's 1992 context	New context	Phase
Unnamed Room E6	Room E6 Room F11	E F

archaeological site, suggesting a script with highly localized significance (see de Vreeze 2022 for further arguments on the cultic use of this script). They have not yet been identified in earlier Bronze Age phases at the site, and the use of this script was believed to have ceased with the catastrophic destruction of Phase E (de Vreeze 2022; van der Kooij 2014).

When context N310 is reassigned to Phase F however, several new interpretative possibilities arise, thereby placing its two tablets after the destruction of the Phase E temple. One possibility is that these tablets were recovered or preserved from the Phase E destruction and later (re)deposited in N310, perhaps by individuals still valuing or seeking to recover such objects. An alternative, and more compelling scenario, is that the Tall Dayr 'Alla script continued in use after the destruction of the Phase E temple, persisting into the brief Phase F, which itself ended in another episode of destruction. This would suggest the survival of a scribal tradition beyond the upheaval that marked the end of Phase E. Only after the final destruction of the Phase F structures, likely again related to the temple, did the script disappear from the archaeological record, as far as we know. This interpretation remains provisional, pending further excavation and analysis of Phase F deposits. The co-occurrence of these tablets in Phase F with cultic objects like the *kernos* ring further lends credence to potential cultic continuity beyond the Phase E destruction (de Vreeze and Halbertsma forthcoming).

Most importantly, this study represents the first time that short-lived samples from the destruction

Table 3 Botanical samples of which a selection was used for radiocarbon dating

Sample	Lab number	Locus	DA Phase	Botanical identification	Number of seeds/ samples	Suitability for ¹⁴ C dating
1	DA22_SN1 GrM-34002	3, ashy fill	F	Barley; bread wheat	2	Good
2	DA22_SN2 GrM-34003	6, burnt debris	F	Bread wheat	2	Good
3	DA22_SN3 GrM-34004	6, burnt debris	F	Barley; bread wheat	2	Good
4	DA22_SN4 GrM-34006	8, destruction debris	E	Grape pip	1	Good
5		8, destruction debris	E	Charcoal (poplar); not young	1	Not suitable
6	DA22_SN7 GrM-34007	9, Ashy clayey deposit within room 4	E	Legume	3	Good?
10		17, layer of burnt brick material	F/G debris	Twig; legume; wood	1	Not suitable
11		18, courtyard layers	IA courtyard	Too weathered		Not suitable
12		19, courtyard layers	IA courtyard	1 twig; legume; wood. Young. Bad condition		Not suitable

Table 4 Radiocarbon dates of the five submitted samples (IntCal20: Reimer et al. 2020) and OxCal 4.4.4 (Bronk Ramsey 2021)

Sample	Lab no.	Date yr BP	$\pm 1\sigma$	$\delta^{13}\text{C}$	cal BC 68.3%	cal BC 95.4%	Phase
DA22 SN1	GrM-34002	2953	23	-24.19	1212–1125	1259–1055	F
DA22 SN2	GrM-34003	2949	24	-22.07	1211–1124	1256–1054	F
DA22 SN3	GrM-34004	2970	23	-23.9	1255–1127	1273–1112	F
DA22 SN4	GrM-34006	2983	23	-23.51	1261–1131	1366–1121	E
DA22 SN6	GrM-34007	3018	25	-25.21	1370–1219	1386–1132	E

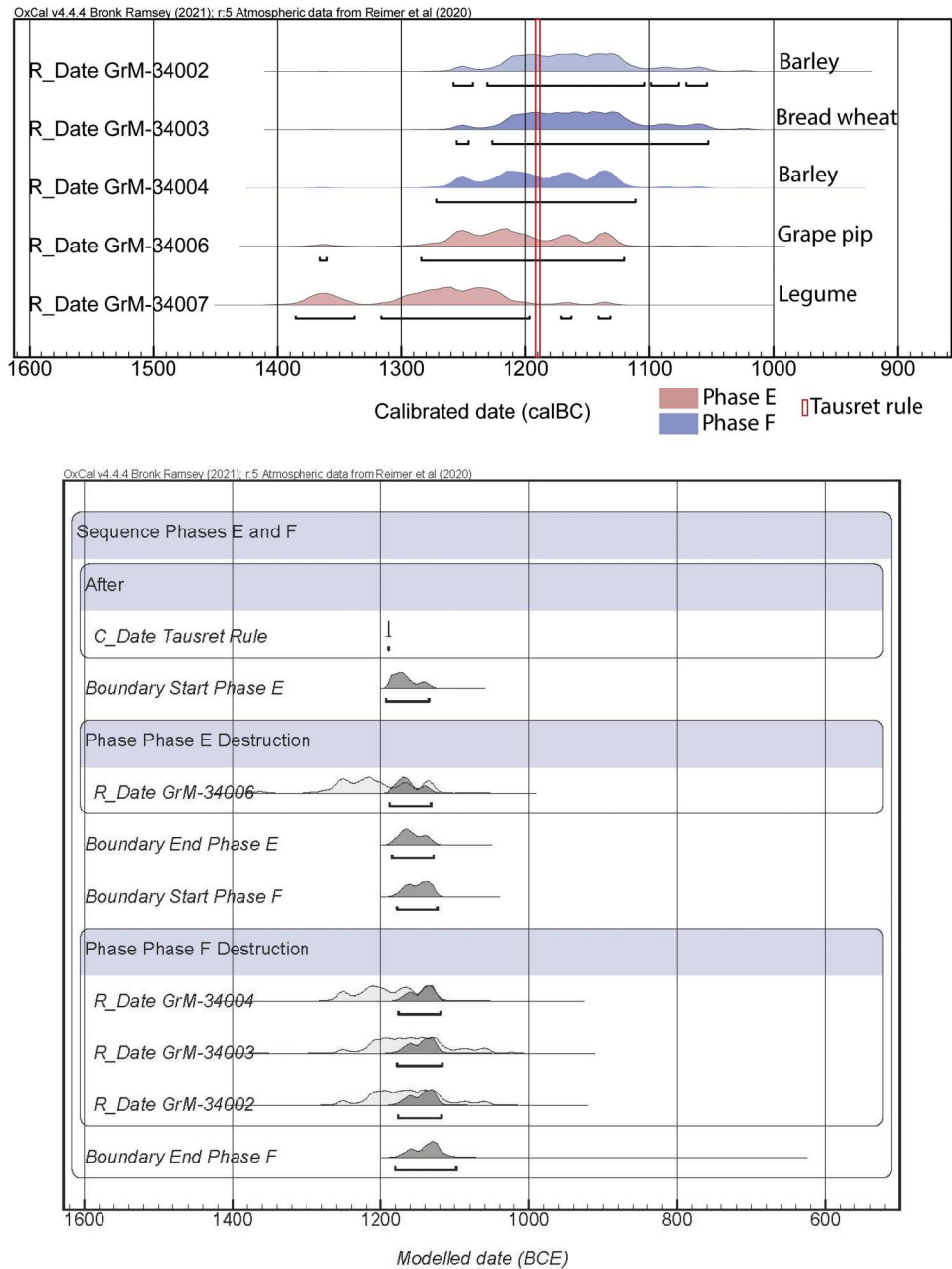
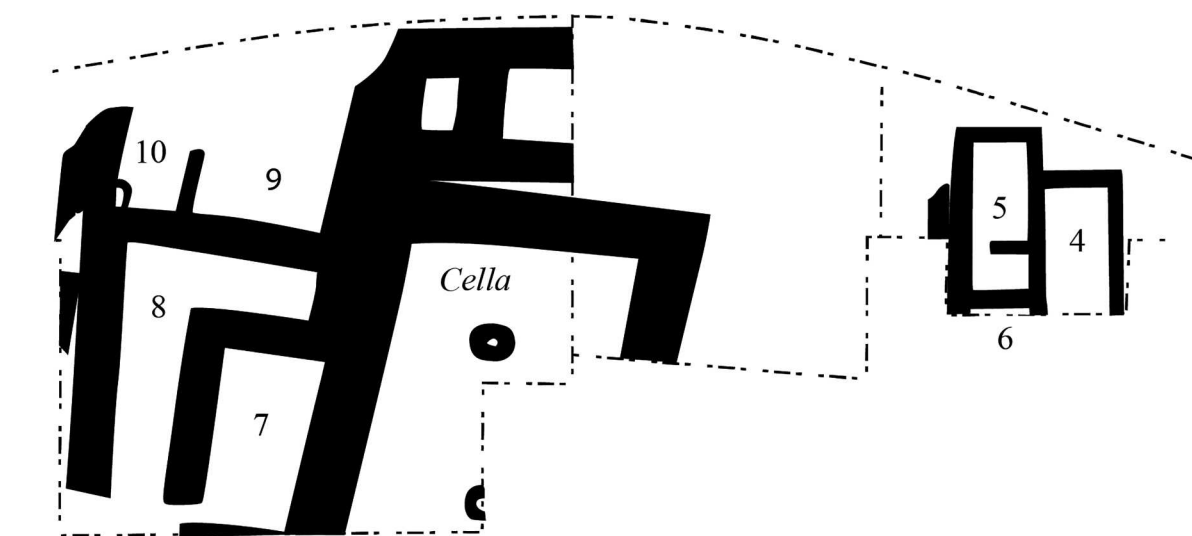


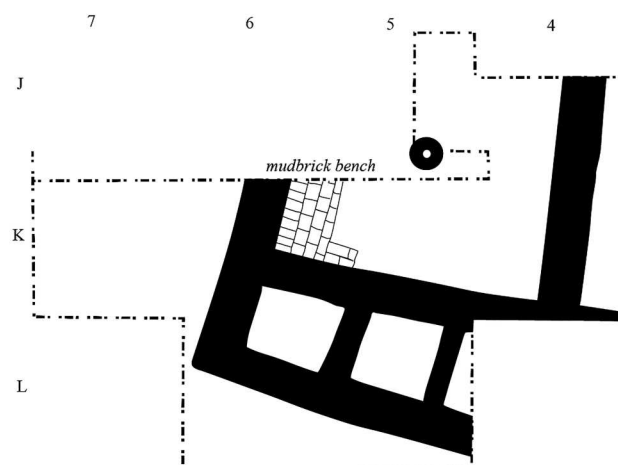
Figure 19 Radiocarbon dates in stratigraphical sequence (unmodelled) with historical date of Tausret's rule included (OxCal 4.4.4) and a Bayesian chronological model of the temple sequence for Phases E and F (Bronk Ramsey 2021; Reimer et al. 2020).

Table 5 Original temple sequence (Franken 1992) and the re-evaluated phasing based on the 2022 season, including characteristics and preliminary dating conclusions

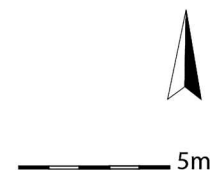
Franken's Phase	Re-evaluated Phase	Characteristics	Date
F	F	Partial rebuilding of Phase E, limited exposure. Kernos ring, two clay tablets with unknown script	Rebuilt after 1178 BCE, destruction unclear
E	E	Continuation of Phase D temple, reusing north and west walls of its <i>cella</i> . Numerous storage rooms, clay tablets with unknown script. Vase with cartouche of Tausret	Destroyed after 1188 BCE, construction unclear
D	D	Different alignment from Phase B (NWW–SEE), smaller in size. No stone foundation, robust mudbrick walls	Unclear
C	n.a.	Levelling of Phase B remains, not a temple phase	n.a.
B	B	Significant extension northward with the 'stone structure'. Robust and monumental stone foundation, W–E orientation.	unclear
A	A	W–E orientation of northern wall, mudbrick. Pottery vessels from 'hoard' D538 in Phase A destruction debris	c. 1600–1550 BCE (relative dating)



Dayr 'Alla Temple phase E



Dayr 'Alla Southern 'public' building/pillared building phase E

**Figure 20** Southern monumental building compared with Phase B and Phase E temple on the northern slope (after de Vreeze 2022: fig. 3.3).

of Phase E have been analysed for radiocarbon dating. Previously, the date of this destruction event was inferred solely from the discovery of the ‘Tausret vase’. Significantly, the new absolute dating results for Phases E and F are fully consistent with the historical chronology of the end of Phase E as indicated by the ‘Tausret vase’ found in the *cella*. These radiocarbon dates will now be further examined alongside archaeological and historical data from the region and are expected to serve as an important chronological benchmark for the final stages of the Late Bronze Age in the southern Levant, directly correlating with Egyptian material culture associated with the end of Egypt’s 19th Dynasty.

Conclusions

The pilot season of the Renewed Tall Dayr ‘Alla Temple Project has yielded notable results. The preservation of the LBA temple’s excavated architecture and sections proved to be considerably better than anticipated, especially given six decades of exposure and erosion impacting the already fragile, burnt archaeological remains.

Several long-standing stratigraphic questions were successfully resolved. The substantial stone structure on the northern side of the temple was shown to have been constructed as part of the Phase B temple, redefining the architectural development of the temple sequence. It confirms that earlier phases were more monumental than previously recognized, and that the later phases (D and E) were smaller temples being slightly differently oriented (ESE–WNW instead of E–W). We also established that temple Phase C does not represent a distinct temple phase, but rather a levelling layer between Phases B and D.

Equally significant is the reassignment of the artefacts from Room E6, attributed initially by Franken to LBA Phase E, to Room F11 and thus to Phase F. This reinterpretation has broader implications for understanding cultural continuity following the Phase E destruction, particularly the possibility that cultic practices, including the use of the distinctive Dayr ‘Alla script, persisted into the final phase of the LBA occupation.

Architecturally, the Phase E temple appears to have been more monumental and substantially built than Franken had envisioned. Whereas Franken primarily documented the heavily burnt mudbrick walls of the Phase E *cella*, our work revealed that these were constructed atop a well-built stone foundation that originated in Phase D.

A series of botanical, micromorphological and radiocarbon samples taken in Trench 4 confirmed that the destruction of Phase E aligns with historical data, particularly the ‘Tausret vessel’. Moreover, the new ^{14}C dates provide absolute chronological anchors for both Phases E and F, demonstrating that construction of Phase F followed closely after the destruction of Phase E. These results offer an essential contribution to refining the chronology of the final LBA in the southern Levant and its transition into the Iron Age. This allows for additional analyses, including dates from the subsequent latest Late Bronze phase (F), and further investigation of the early Iron Age layers above the temple.

Overall, the combination of fieldwork and the use of the digitized archive of the 1960–64 excavations proved highly successful. Old photographs, notes and drawings guided the re-exposure of previously excavated remains, while new field observations allowed several of Franken’s (1992) conclusions to be corrected or refined. Additionally, using photogrammetry to document the architecture and sections has produced 3D models of the site during excavation, preserving benchmarks of the current condition of the *cella* and Trench 4.

This pilot project has highlighted the significant research potential of the LBA levels at Tall Dayr ‘Alla. The results not only revise the understanding of the temple’s architectural and stratigraphic development but also open new avenues for exploring continuity and change in cultic traditions and material culture prior to and during the turbulent transition from the Late Bronze to the Iron Age. Future fieldwork intends to build on these findings to further clarify the sequence, function and importance of this key temple complex within the regional Bronze Age landscape.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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