

2024 BIP Excavations Final Report

This season we worked from May 27-June 28 with a team of 9-11 volunteers. Our goal was to maximize what will be our last full-scale excavation season, as we plan to devote more time to studying material and publication starting in 2025.

We began the season by opening a trench on the terrace to the north and east of the 2022 trench. The terrace trench was positioned with the aim of capturing more activity dating to the Iron Age, a phase which the previous two seasons demonstrated most of it had eroded down this steep southern slope. We found a large pottery-rich erosional fill that overlay a 3m stretch of a terracing wall which was part of the original hillfort. A radiocarbon date from a context either below or contemporary with the construction of the wall produced a calibrated date of 1114 – 924 cal BCE suggesting that it is Late Bronze Age or Iron Age in date. The pottery-rich fill yielded a C-14 date of 1264 - 424 cal BCE. A marine shell was analyzed, and it is possible that the difficulties of marine calibration may have resulted in this very long date range. Pottery within this fill is contemporary with this range, although not as early as the 13th century BCE. That being said, all the coarse gritty ware has not been read at the time of this report. Another C-14 sample from this fill will be analyzed to provide more evidence for its date.

A second trench was opened on the north side of the site. This trench was supervised and excavated primarily by the Croatian part of the team. It was excavated for the entire field season in the search for the original entrance to the hillfort, given that this area is where the approach to the plateau is easiest. It produced a wide range of pottery but not all of it was read at the time of writing.

A third, smaller trench was opened in the fourth week of the season on the northwest corner of the 2023 plateau trench with the goal of testing stratigraphy, collecting more archaeobotanical remains, and C-14 samples for analysis. A C-14 sample from its lowest context yielded a problematic date of 1056 - 904 cal BCE. In 2023, a sample collected from the same level but on the southern side of the trench provided a date in the 17th c. BCE. I can only imagine that this came from some sort of contamination at the bottom of this trench. Another sample from the context immediately above has been sent for analysis but no results have been received yet.

2024 Excavation Report 1 (A. Rivadeneira and S. James)

Area 1 (terrace trench)

General Comments

The 2024 terrace trench is positioned on the southern slope of Gradina Rat. We returned to the terraces this season after spending 2023 on top of the hill. The reason for this shift in emphasis was to capture diachronic activity at the hillfort, which can be traced from Bronze Age (or earlier) to the Early Modern period. Based on last season's work, which found very little Iron Age material, and the previous excavations by Vedran Barbarić on the terraces in 2014, it appeared that much of the Iron Age material had eroded down the southern slope of the hillfort. Iron Age material was previously found in the 2022 excavation and survey on the terraces, and a return to this area was hoped to

discover more about this important phase of the site. In 2022, a trench was placed on the middle terraces close to the large cairn on west side of the hill because geophysics by Larry Conyer indicated that there was a structure below, possibly part of one of the original walls of the hillfort. Unfortunately, those excavations did not reveal a definite structure. This year's terrace trench was closer to the top of the hill than in 2022, and 1 m west of Dr. Barbarić's trench (Sonda 4 2014), which had uncovered a short stretch of prehistoric wall.

The 2024 trench was 3x5 m and spanned three terraces, specifically the sixth and fifth from the top 19th-century terrace walls (walls 191 and 192) and the top part of the seventh. Originally, we intended to place the trench immediately west of the 2014 trench, but due to the size of the large, worked stones in the seventh terrace wall it was shifted north by one terrace. Excavations began on May 28 with a team of 9-11 volunteer excavators working for approx. 25 days. The GNSS was used again this season to take multiple points for each stratigraphic unit, as well as elevations. This was combined with field drawings of each context as well as photographs. These three methods combined enable a more accurate reconstruction of each context. The forms reflected the trench measurement system that started in 2023 using X1, Y1, X2, and Y2 dimensions.

Soil samples of nine liters were taken from each context starting with context 231 and continued through the yellowish-brown, pottery-rich soil or Erosional Deposit 2 below, which included contexts 239, 241, 242, and 243. The goal of this intensive sampling was to find both faunal and archaeobotanical remains using the full-sized water sieve borrowed from the University of Zadar this season. C-14 samples of charcoal, bone, and daub were also taken from multiple contexts. One of which, from context 243, yielded a broad date of 1264 - 424 cal BCE which is earlier than the latest material (2nd-1st c. BCE) according to the Harris matrix; something that forces a reconfiguring of the contexts currently associated with the yellow, pottery-rich fill.

The main feature discovered in this trench is a 3m stretch of a large wall (structure 245) that lay on a different orientation from the late 19th-century terrace walls and was stratigraphically below them (see section). Wall 245 was on an NW-SE axis instead of a mostly W-E axis of the Early Modern terrace walls. This NW-SE axis also aligns with the bedrock and other traces of earlier walls on site that are believed to be prehistoric alignment. Wall 245 also aligned with the wall from Sonda 4 and is almost certainly its northwestern extension. Wall 245 consisted of two courses of approximately six large boulders sitting on or cut into the bedrock. Due to its size and historical importance, the wall was left in situ. It will be conserved and prepared for presentation to the public as approved by the Croatian Ministry of Culture. A tentative date based on stratigraphy, pottery, and a C-14 date of 1114 - 924 cal BCE. At present, the latest pottery in the fills most closely associated with wall 245 provide a terminus ante quem of the 6th c. BCE, but there are two more contexts below the level of its lowest course that will be excavated in Summer/Fall 2024 as part of the conservation process. Aside from this wall, three significant periods of deposition were established, the lowest of which provides a terminus ante quem of the 6th c. BCE for wall 245.

Given the steepness of the slope on this part of the hill, approximately 25-30 degrees, it was necessary to maintain arbitrary partitions until the very lowest strata which were more level. These partitions aligned roughly with the position of the fifth and sixth 19th-century terraces from the top.

As a result, some consolidation of contexts was required post-excavation, and this is reflected in the final Harris matrix. The relationships of these contexts are also shown in the section drawing.

Unlike the 2022 terrace trench, no material from the Late Antique or Medieval periods was identified. Of the read pottery, only Context 231 had a few later sherds but because of the loose rocky fill throughout the trench is possible that these are intrusive.

Note that not all context pottery was able to be read by the end of the season. Overall, the quantity of material from all three 2024 trenches was greater than in previous seasons. However, the lack of finds data means that the interpretations below are tentative and will need to be reassessed next season once the pottery is read, and the C14 results are available.

NB. The scarp drawings done during the field season do not accurately represent the stratigraphy. They need to be modified. It is clear that nearly all fills below topsoil, and above bedrock sloped toward the west and were deeper toward the south. This is why the north and east scarp drawings are misleading. An almond tree embedded in the west scarp disturbed most of those strata. A N-S section drawing made through the middle of the trench is a better reflection of the actual nature of the fill deposits.

Modern-Early Modern Activity

Topsoil that had accumulated above the original fill of the late 19th-century terrace walls was removed; these were contexts 193-198 with top elevations of 106.380-105.762-104.563 and bottom elevations of 106.040-105.430/105.555-104.235 masl). Due to the steep slope, the middle area was arbitrarily divided to create “steps” in context 197 to facilitate excavation.

Part of two 19th-century terrace walls (191 and 192), the fifth and sixth from the top, lay across the center of the trench. Like the other terraces, they belong to a period in which viticulture was prominent in this region (ca. 1870-1900) as a result of the phylloxera epidemic that struck France and other regions of western and central Europe. Phylloxera came to Dalmatia in 1909 at which point these terraces would have been abandoned.

After removal of the topsoil and fills contemporary with the upper courses of walls 191 and 192, a soil change occurred and appeared to mark a leveling/ terrace fill associated with construction of walls 191 and 192. This soil was a lighter brown (contexts 199-204) than the topsoil with a steady increase of the amount and size of the rocks and the quantity of pottery toward the bottom of the contexts. This lighter brown soil was only ca. 0.10-0.20 m deep in the middle and north parts of the trench, but 0.30-0.40m on the lowest terrace. Contexts 204 and 203 are the lowest courses of walls 191 and 192 respectively. We can interpret these two contexts, in addition to 199-202, as disturbed and redeposited soil that were part of the upper erosion fill that existed at the time of walls 191 and 192's construction. In other words, we have identified it as an “interface” stratum. Cut 205 found after the removal of wall 192 (context 203) demonstrates the relationship between the 19th-century walls and these fills. This is noted on the Harris matrix and the section drawing. A further characteristic that supports this interpretation is the presence of only 1 or 2 sherds of Early Modern

pottery or other finds (like tile) in each context compared to the overwhelming amount of earlier material; another difference from the topsoil contexts above.

It became apparent while excavating that the bedrock was a significant factor in depth and direction of eroded soil deposition. There is a gradual slope on the uppermost part of the trench and a much steeper slope in the middle and lower parts. This difference may help explain why some deposits are deeper in some areas than others (see section drawing).

An Italian matt-painted pottery sherd dating to the 6th c. BCE from context 204 joined a sherd from context 237 and it is clear that this is an old break. The latest date of the finds in context 204 is the 1st c. CE and context 237 is part of a group of contexts that belong to an erosional fill with an earlier date of the 2nd-1st c. BCE. This suggests, unsurprisingly, that the erosional processes that formed these deposits were not even, i.e., not all material from a single period was deposited on the hillside at the same time so that part of a vessel could be eroded down the slope years before another part of it met the same fate.

1st-5th-century CE: Erosional Deposit 1

Below the mixed soils of the “interface” was a loose, dark brown soil with a higher percentage of cobbles, small boulders, and pottery than the stratum above. It was excavated in several contexts, 207-209, 231, 232, and covered the entire trench. In contrast to the above stratum, this soil also had a shorter, yet still broad, date range. Pottery within it mostly ranged from the Middle Bronze Age to the 1st c. CE, but a pitcher with a date of the 1st-5th c. CE was found in context 231.¹ Based on the section drawing, this erosional event occurred after an upper course of the prehistoric wall fell down to the south.

The pottery within this stratum only gives a terminus post quem. However, this is the soil that was cut (Cut 205) into, albeit at a higher elevation, to create walls 191 and 192 and redeposited as the “interface”. It was with the removal of this stratum that the yellowish brown, pottery-rich stratum was revealed across the entire trench.

1st century BCE: Erosional Deposit 2

This stratum is characterized by a light yellowish brown, sandy/clayey silt, that was more compacted than the stratum above. Small boulders and cobbles occurred at about the same rate (~50%) but there was more pottery and new types of inclusions along with this soil, namely charcoal, animal bones, shell, and a few chunks of building materials (clay and daub). In fact, the light color and the compactness of the soil, which is sometimes described in the notes as clayey, may stem from this latter material especially the white and yellow clays used as part of wattle-and-daub construction that decompose. This is plausible given the discovery last season of a sequence of wattle-and-daub structures on top of the hill. This stratum produced the most amount of pottery in this trench. It consisted of both local and imported wares.

¹ An even later sherd from context 207 was an 18th-19th-century bowl or cup is likely a contamination from the “interface”.

While the latest pottery gives a terminus post quem of the 1st c. BCE for this erosional activity, most of the pottery is earlier, belonging to the LBA-IA and the 8th-4th c. BCE. There are a few later contaminants that can be explained by the nature of the soil and contact with the scarps. But the near contemporaneity of the local and imported pottery in this stratum is very striking and will be important for interpreting activity at the site in the Iron Age.

This yellow, pottery-rich stratum was also significant because wall 245 was found in context 233 and more fully uncovered by context 242. Wall 245 lies below the late 19th-century terrace walls 191 and 192 and on a different orientation. Stones thought to have once belonged to wall 245 were found tumbled down into contexts 243, 244, and 246 on the south side of the wall. The same yellowish, rocky, sandy/clayey, compacted soil surrounded these stones, albeit in a somewhat disturbed/mixed state with the stratum below. Based on the section drawing, the upper course(s) of wall 245 was either knocked down by this erosional episode or that this part of the wall had toppled before this erosional event.

It is worth noting that bedrock was found at the bottom of contexts 243 and 244. The bottom of wall 245 was not fully articulated due to the lack of time but it does seem to be built on bedrock. North of wall 245, the soil became a darker brown with many more boulders and cobbles (~80%) below contexts 241 and 242. The latest date of both contexts is the 1st c. BCE. Interestingly, three pieces of iron slag were found in 242 which are a rare find at the site and should belong to the same period as the pottery.

The bottommost part of this fill, context 246, removed soil from the top of the uppermost preserved course wall of 245 (104.661 masl). This context also defined the eastern end of the wall and therefore, stratigraphically, it should belong to a period after wall 245 had lost its original function and had fallen into disrepair.

5th-4th century BCE: Anthropogenic Fill

A clear shift from the yellowish-brown soil to a rockier, brown silty soil marks the top of this fill, which could be interpreted as either another erosional stratum or as part of the terrace fill associated with wall 245. An argument for the latter has the best evidentiary support.

This stratum contained many boulders and smaller stones. Context 247 abutted wall 245, and context 248 was north of it and had been left slightly higher than 247 during excavation of 239, when some rocks were removed. Bedrock became largely exposed during the excavation of 247 on the eastern side of the trench. This soil above the bedrock was light and silty, which differed from the sandier darker soil adjacent to wall 245 is similar to that described in the next section. The darker soil appeared to continue down the north side of the wall, but it stopped at the bottom of context 273 suggesting that rather than being contemporary with wall 245 that it was another fill behind the wall.

At the bottom of this fill, the soil on either side of wall 245 became quite different. The relatively large amount of imported pottery in this stratum provides a solid date of the later 5th-4th c. BCE.

Context 249 is from south of wall 245 and part of the same dark brownish brown layer excavated in 247. The presence of this soil on both side of the wall indicates that it either somehow passed through the wall (very unlikely) or that it represents the same kind of activity happening on both sides of the wall, possibly agriculture or household use; something that can contribute to similarities in color, composition, and ceramic date. Evidence for household use can be found in the patches of grey ash and concentrations of animal bones on the south side of wall 245.

Late 9th-6th century BCE: Fills closely associated with Wall 245

This stratum comprises four contexts that are discussed together here because of their pottery dates and close proximity to wall 245. They are contexts 272-275, which were the last soil on top of bedrock in many places throughout the trench. A light-colored, sandy silt was found directly on top of bedrock in 272, 274, and 275. This stratum is therefore tentatively interpreted as fill related to the construction of wall 245. Contexts 272 and 275 provide a terminus ante quem of the late 9th to 6th c. BCE. Further excavation in the trench south of wall 245, below context 272, will also help shed more light on the stratigraphy and chronology of this feature. To the south of wall 245, less bedrock had been exposed by the end of the season. Additionally, not all pottery from these contexts has been fully read (i.e., 273 and 274). A C-14 sample was taken from 275 and provides a date of 1056 - 904 cal BCE.

2024 Excavation 2: Top Trench (E. Ramsey and S. James)

General Comments:

A trench 2.0m long and 0.8m wide was laid out along the northwest scarp of the 2023 trench on top of the plateau. This trench was opened on 18 June 2024. Its primary purpose was to test the results of last season's excavations by collecting additional material for C-14 sampling and to supplement the relatively small amount of flotation sampling that was done in 2023. For the latter, a 9L sample was taken from every context beginning with 264 and, although not all contexts were put through the water sieve due to time constraints, the completed samples have yielded archaeobotanical remains and micro-fauna. Many C-14 samples were collected, but only one was sent for analysis because of restricted funds. It is hoped that additional samples will be sent in 2025. This trench reached the elevation and stratum of the lowest layer from 2023 on the final day of excavation and work stopped. We have no intention of continuing to excavate here until we have funds to do a large area below the current early MBA stratum.

In terms of method, we remained consistent with the approach adopted during the 2023 season; that is, we used the GNSS to take multiple points on each stratigraphic context and made drawings using hand measurements oriented to the X and Y axes of the trench.

The stratigraphy and finds in this trench were in many ways consistent with the 2023 trench. It should be noted, however, that the previous trench demonstrated that activity on

the eastern half was different than that on the western end. This was proved again true through this season's work, which also provided new information.

The Harris matrix shows how the horizons identified in 2023 match up to those excavated this season, based on elevations, soil color, soil composition, and inclusions. It appears that Horizon 1 (ca. 900-850 BCE) and Horizon 2 (ca. 1125-1075 BCE) cover a wide area spreading across the trench and continuing off towards the northwest. No evidence of the same complex stratigraphy of Late Bronze Age fill and structures (Horizons 3 and 4) was found in the 2024 trench, which supports the hypothesis from last season that the western area of the trench was outdoor space when the building associated with wall 125 was in use.

Contexts from Horizons 5 and 6 did occur in the 2024 trench, indicating that the same activities occurred beyond the trench to the northwest. The similarities between the 2023 and 2024 contexts demonstrated that this was the same soil that 2023's C-14 samples had dated to 14th and 17th centuries BCE. Particularly striking were the postholes in the bottom of the 2024 trench which align nicely with those associated with the 17th c. BCE phase. All of which suggests that this phase (Horizon 6) was the largest in this part of the plateau. When considering the entire sequence of activities, the 17th century BCE was a peak of activity with a second peak in the 14th century (Horizon 5), followed by a contraction in the 12th century (Horizon 3) albeit with a structure present (wall 125), and expansion again in the early 9th c. BCE (Horizon 1) nearly to the same extent as Horizon 6. A C-14 sample taken from the final context (301) in this 2024 trench should confirm the absolute date of this lowest phase.

Note that no pottery has been read from these contexts. The following discussion is therefore based purely on stratigraphy and parallels to 2023 contexts to provide dates.

Early Modern Activity:

Topsoil was removed in contexts 261-264 (with a baulk 262 removed after the first pass). This soil was consistent with contexts 84 and 87, which revealed the extent of the late 19th-century Wall 85. Below topsoil, context 265 can be part of the soils into which Wall 85 was cut. It exposed a mix of contexts, including an ashy lens (context 267) that lay atop fills associated with Horizon 1. Very small amounts of daub were noted in all contexts.

Iron to Bronze Age Activity:

Contexts 269—284 align with the early 9th-century strata identified in the 2023 trench. Inclusions within the soil matrix include clay, ochre, and ash, as well as more stones/cobbles than in the contexts above. This is consistent with soils excavated just to the south in 2023 as Horizon 1. Starting with context 278, the trench is divided into three

parts based on soil type particularly “ashy lenses” and one with chalky clay. Contexts 278-285 are identified as destruction debris (Horizon 2) related to the 11th-century structure (Horizon 3) that dominated the eastern part of the 2023 trench. Contexts 283-285 and 289 contained daub, marine shells, and animal bones.

Below these strata, there is a yellowish brown soil (contexts 286, 287, and 290) that covered most of the trench and continued into the scarps. Its lowest stratum, context 290, contained daub which revealed the full extent of cuts 288 and 296. Excavators suggest that these cuts were originally round and may represent postholes. Unfortunately, both cuts extend into the scarp so their shapes could not be fully identified. Their presence, however, indicates that there is likely more of this phase that survives to the north and east. Postholes were found in Horizons 3 and 6, but their elevation seems to connect them to 2023’s Horizon 5. These were cut into a light brownish brown silty sand (contexts 297-299).

The final stratum is equal to Horizon 6, dating to the 19th-century BCE, and comprises contexts 300 and 301. It is nearly 0.2m thick, yellowish brown soil with significant amounts of charcoal and daub. At the bottom, a uniform compacted surface appeared that matches the rest of the trench in its earliest phase. This stratum appeared to continue to the east, west, and north of this trench. Rock, possibly bedrock, was found at the bottom of context 301, along with half of an intact cup and a smashed vessel.