

REPORT

Tiho'witz and the Rural Landscape: Evidence of Planned Quincunx Architecture in a Single-Period Late Classic Maya Site

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Abstract

In 2022, a lidar survey of the Three Rivers Region, conducted by the Belize Estates Archaeology Survey Team, identified multiple previously unrecorded sites, including Tiho'witz, located between and atop five hills ranging in height from 7 m to 18 m. Our 2023 ground truthing and preliminary excavations suggest that Tiho'witz is a single-period site purposely constructed with a quincunx layout during the Late Classic period. In this report, I discuss the site's structures and main features, our initial excavation results, and the possible implications of the site's quincunx layout.

Resumen

En 2022, un reconocimiento lidar de la Three Rivers Region, realizado por el Belize Estates Archaeological Survey Team, identificó varios yacimientos no registrados anteriormente, entre ellos Tiho'witz, situado entre y sobre cinco colinas con alturas que oscilan entre los 7 y 18 m. Nuestras verificaciones de campo y excavaciones preliminares del 2023 sugieren que Tiho'witz es un yacimiento de un solo periodo, construido intencionadamente con un diseño en quincunce durante el periodo Clásico tardío. En este reporte, discuto las estructuras y las principales características del sitio, los resultados de nuestras excavaciones iniciales y las posibles implicaciones de su diseño en forma de quincunce.

Keywords: Maya archaeology; Belize; site planning; cosmogram; Late Classic Period

Palabras clave: arqueología Maya; Belize; planificación de sitio; cosmograma; período Clásico tardío

The site of Tiho'witz is in the southwest sector of the Belize Estates Archaeological Survey Team (BEAST) research permit; the site was unknown to archaeologists until the project's lidar survey in 2022. After ground truthing the lidar data and recording the main structures and groups at the site's core, we conducted a small sample of test pits at the main plazas to recover chronological information in 2023 (Gallareta Cervera et al. 2023). Our results suggest that Tiho'witz is a relatively isolated, moderate-sized, single-period minor center, one of five with ball courts associated with the larger site of Chan Chich (Houk et al. 2026). Perhaps one of the most interesting aspects of the site is its layout: a series of court-yards, plazas, masonry buildings, and roads distributed between four hills forming a quincunx pattern. This report describes the results gathered during our 2023 explorations and briefly discusses the possible implications of Tiho'witz's site plan. Two characteristics define Tiho'witz—its distinctive quincunx site layout and a possible single-period occupation during the Late Classic period. The site's size, location, layout, and temporality might be related to the rising rural population during this period.



Figure 1. BEAST permit area and Tiho'witz location. Map by Amy E. Thompson. (Color online)

Description of Tiho'witz

Tiho'witz¹ is located in the southeastern Three Rivers adaptive Region (TRR), 6.5 km west of Chan Chich, the central urban node, and based on its monumental area size of (124.7 ha), the only Tier 1 site in the BEAST permit area (Figure 1). The site was identified and designated BE-33 during the initial review of the lidar data, which revealed a medium-sized site (with 27 ha of monumental area) clustered on and among five hills. A preliminary ranking based on the total monumental area of the civic-ceremonial zones in the BEAST lidar data by Houk and colleagues in the introduction to this special section places Tiho'witz in Tier 3 sites (Houk et al. 2026:Table 1). According to Houk and colleagues (2025), Tiho'witz is the easternmost minor center within the larger Chan Chich polity, based on structure density analysis.

The bird's-eye view of the site is striking: the five 7–18 m high hills create an amphitheater-like setting, in which a small plaza sits, flanked by courtyard groups on four of the hills. Plaza A1 is framed to the east by a 12 m high temple pyramid (Structure A1), a 7 m high range building on the south (Structure A2), and a possibly vaulted 4.5 m tall range building to the north (Structure A5). A ball court (Structures A3 and A4) sits on a platform south of Structure A2. A 325 m long parapet-lined *sacbe* extends south/southwest from Plaza A1's southwestern corner before it tapers off (Figure 2). A second, shorter *sacbe* connects the plaza to the courtyard on the northern hill. Both roads are identical in their south/southwest to north/northeast orientation—a line drawn along the eastern parapet of the southern *sacbe* crosses through the center of Structure A2 and follows the eastern edge of the north *sacbe*—suggesting that their placements and alignments are intentional design decisions. Structures A5 and A6 frame the northern *sacbe* to the east and west, respectively.

The site's four dominant courtyards occupy the summits of four of the five small hills surrounding the main plaza, resulting in a cruciform or quincunx layout when observed from above. Significantly, the courtyards are oriented to the four cardinal points. Courtyard A2 crowns the northern hill at the highest point of the site and comprises four structures (Structures A7 to A10) with a walled, sunken patio (Courtyard A3) to the west. Courtyard A4, located on the western hill, has three structures (Structures A14, A15, and A16), one of which, Structure A14, is L-shaped. The large hill south of Courtyard A4 yielded no evidence of visible cultural remains on its summit but did present two C-shaped structures (Structures A23 and A24) attached to its base on the west and southeast, respectively. Courtyard A5 on the eastern hill has at least two structures (Structures A17 and A18), a chultún, and a possible flat

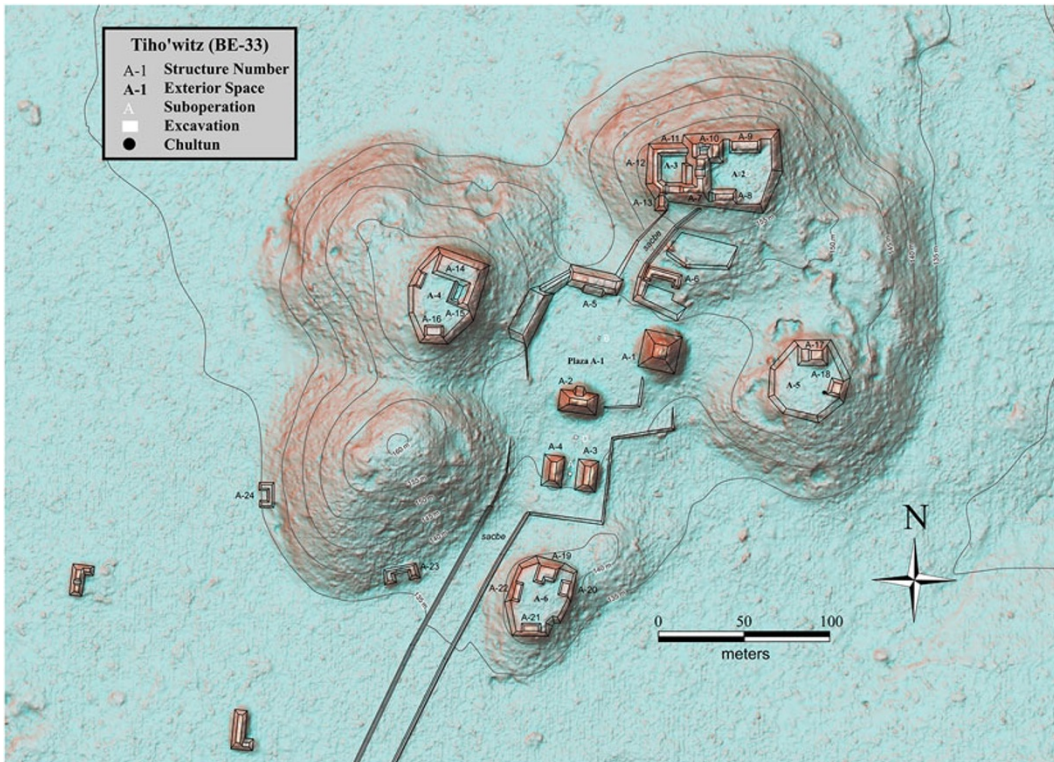


Figure 2. Malarized map of Tiho'witz site core showing architecture and Op BE33-01. excavations on a lidar-derived sRRM with 5 m contours. Figure by Tomás Gallareta Cervera, Brett A. Houk, and Amy E. Thompson. (Color online)

surface or landing at a lower level southwest of its plaza. Finally, Courtyard A6, located at the southern and lowest hill of the site, has four structures (Structures A19 to A22), one of which might be vaulted.

Excavations and Field Verification

In 2023, we visited Tiho'witz to inspect the site, look for evidence of looting, and conduct test excavations. The site is covered in dense vegetation with large tree falls, the result of multiple, strong hurricanes in the region since 2010, reducing visibility and mobility. Although the site is located less than 1 km from a modern gravel road, ground truthing found no evidence of visible looting at the site.

The main objective of our excavations during 2023 was to establish the basic chronology of the site. Test pits were placed at the ball court, central plaza, and northern courtyard. All four test pits yielded relatively shallow fills with very low quantities of artifacts, and, with the possible exception of Courtyard A2, only one floor level. In general, the stratigraphy consisted of three cultural layers: a topsoil made of dark brown soil and loosely packed humus, a heavily eroded floor, and construction fill made of compact small rocks and soil, above a layer of paleosol covering bedrock (Figure 3). The few ceramic materials recovered date to the Late Classic (AD 600–810) period (Fred Valdez, personal communication 2024). These preliminary results suggest that Tiho'witz was constructed in the Late Classic period. However, Preclassic remains exist at the site, and some Terminal Classic sherds appear in the main plaza (see Table 1).

Discussion

Site Planning and Meaning

Disagreement about the interpretation of objective and subjective evidence about ancient layout sites has been previously discussed (see Ashmore and Sabloff 2002, 2003; Chase and Chase 1998:326; Houk and

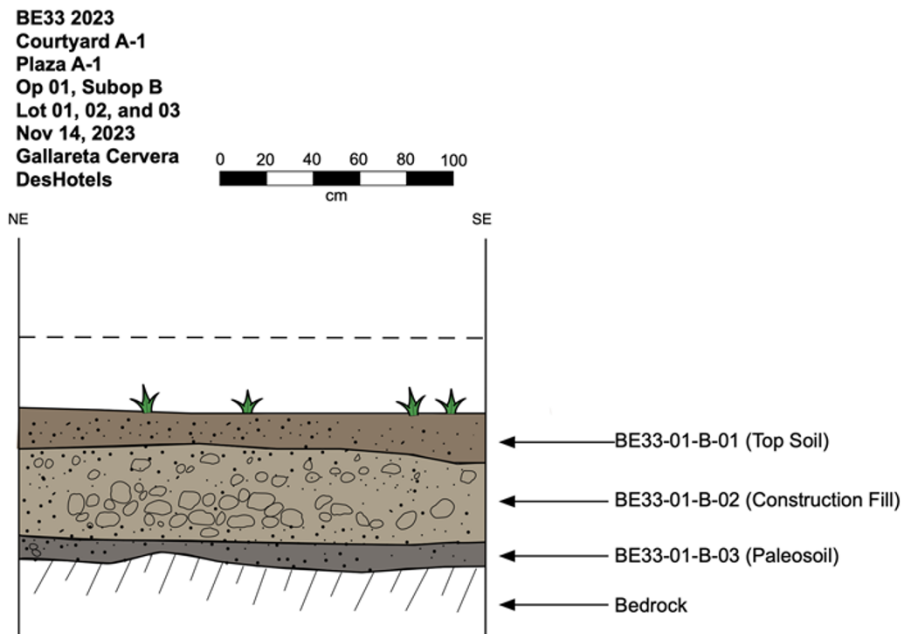


Figure 3. East profile of BE33-01-B. Figure by Tomás Gallareta Cervera. (Color online)

Table 1. Tiho'witz Ceramic Provenience.

Subop	Lot	Sherd Count	Time Period	Period	Structure
A	1	0	NA	NA	Ball Court
A	2	0	NA	NA	Ball Court
A	3	0	NA	NA	Ball Court
B	1	28	Tepeu 3	Terminal Classic	Plaza A1 N
B	2	12	Tepeu 2	Late Classic	Plaza A1 N
B	3	0	NA	NA	Plaza A1 N
C	1	0	NA	NA	Plaza A2
C	2	27	Tepeu 2; Chicanel trace	Late Classic/Late Preclassic	Plaza A2
C	3	0	NA	NA	Plaza A2
C	4	0	NA	NA	Plaza A2
D	1	0	NA	NA	Plaza A1 S
D	2	8	Tepeu 2		Plaza A1 S
D	3	0	NA	NA	Plaza A1 S

Zaro 2011; Mathews and Garber 2004; Shaw 2008; Smith 2005; Šprajc 2005, 2018). Recently, however, objective evidence of a cosmogram layout was found at Aguada Fénix, Mexico. There, an E Group dated to the Middle Preclassic period and aligned to the sunrise, presented multiple caches located within two cruciform pits aligned with the cardinal directions (Inomata et al. 2025). The items in the caches included ceremonial material, such as a carved greenstone crocodile, greenstone axes, jade plaques, a jade pectoral, a conch, a marine spine oyster, and yellow, blue, and red pigments, which are associated with the cardinal directions in Mesoamerica. Finally, the site has corridors and causeways radiating from the E Group in all four cardinal directions (Inomata et al. 2025:Figure 1).

In this report, I take the position that site planning is a deliberate, self-conscious aspect of settlement patterning that reflects decisions of individual planners (Ashmore 1989:272; Houk 2017). Here, I

suggest that the site plan was influenced by Mesoamerican ideas of directionality (Ashmore and Sabloff 2002:202) and may have emulated the Petén Template, the traditional form that evokes power within the region described below (Houk 2017).

Tihowitz's site plan is organized according to the cardinal directions, a common practice in Mesoamerica (Ashmore and Sabloff 2002). The four central courtyards crown the north, east, west, and south hills, and in combination with the central plaza marking the center of the site, which can be interpreted as a quincunx layout. As previously mentioned, a fifth hill located south of Courtyard A4 displayed no visible evidence of permanent occupation during our ground truthing operation, emphasizing the quincunx layout with courtyards situated only on the four hills oriented towards the cardinal directions.

Tihowitz further corresponds closely with Ashmore's (1991:200) Petén site-planning template. The template includes an emphasis on a north-south axis, northern groups often having public open spaces, southern groups having closed private spaces, a ball court as a transitional component between north and south, architectural elements on the east and west forming a triangle with the north, and frequent suppression of the southern position. Houk (2015) recently applied this model to major sites in Belize and concluded that most sites in the region follow the Petén Template. Tihowitz conforms to many elements of the template, with some variation. The plan has a strong north-south axis, Plaza A1 is located at the central-north location, and Courtyards A2, A4, and A5 appear to form a northern triangle. The main public space, Plaza A1, is located at the center of the site, while enclosed private courtyard spaces are located around it. The site's ball court, especially considering its spatial relationship to the *sacbe*, might have been an architectonic symbol of the transition between the open spaces outside the site and the enclosed spaces inside it. The site's significant difference with the Petén Template is the southern Courtyard A6, which has no clear evidence of being an architecturally significant residential group. Tier 1 sites that follow the Petén Template, like Chan Chich, have massive residential compounds at the southern end of their centers where the royal family and courtiers resided. Tihowitz, however, was a Tier 3 site, and, as discussed below, was constructed during the Late Classic period and depopulated shortly thereafter. Hence, the site did not have a traditional multigenerational palace residence to the south, as most Tier 1 sites had.

Late Classic Single-Period Sites

Evidence from the southeastern TRR suggests a network of minor centers, dominated by Chan Chich, which supported a sizeable rural population during the Late Classic period (Houk et al. 2025). Excavation at Tihowitz suggests an extensive single construction episode during the Late Classic period; the Maya scouted, constructed, and settled between and on top of four of five hills, making the landscape their own with multiple stone buildings, including a temple pyramid, a ball court, a *sacbe*, plazas, and patios. At Tihowitz, courtyards with wide openings at their plaza edges crown tall hills: Courtyard A2 is open to the east, Courtyard A4 to the west, and Courtyard A5 to the south. Moreover, both *sacbeob* dissect the site in a shared north-south direction, gradually transitioning across the site from an open public space to an enclosed private space. The very limited ceramic evidence recovered from the site suggests an occupation dating to the Late to Terminal Classic period.

Final Comments

Site-planning analysis is important for the archaeology of settlements due to its comparative approach, pattern recognition, identification of potential political and social relations between sites, political emulation, and symbolic communications (Awe 2008; Houk 2017; Houk and Zaro 2011). The Late Classic rural population in the southeastern TRR increased and saw the appearance of single-period sites in the region. Preliminary research suggests the site of Tihowitz is a one-period site dated to the Late Classic period, a time associated with the peak of the Classic Maya culture and the expansion of rural populations. Tihowitz's site plan might be the result of the Late Classic period population increase (Houk et al. 2026) and symbolically represents sociopolitical and economic network integration within the greater Maya world (Helmke 2020).

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Data Availability Statement. Data used in this report are on file with the corresponding author and maintained by Brett Houk at Texas Tech University.

Competing Interests. The author declares none.

Note

1. The site's new name, Tiho'witz, is an homage to the five small hills surrounding the site core and Gallareta Cervera's hometown of Mérida, the ancient Maya site of Ti'ho. The spelling is based on personal communications with Mary Kate Kelly and William Ringle in 2023.

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