

## Supplemental Appendix 1

Supplemental Appendix 1 provides TE28 excavation and radiocarbon data to support various aspects of the hypothesis.

### *In Support of the Validity of All TE28 Radiocarbon Dates*

The cave model accepts that undisturbed “under the concrete” deposits accurately reflect ancient behavior. Sugiyama et al. (2013:428) disagree and select only seven TE28 dates to compare to the PPS dates. These are five fire pits and two charcoal concentrations from fill in a posthole from which the post had been removed (Sload 2007:23). There are two lines of evidence supporting the validity of all TE28 dates.

The first relates to Beta 220760, the date that Sugiyama et al. (2013:425) use to question the accuracy of TE28 dates. Beta 220760 was the most anomalous date of the original 16, whose predicted function based upon context was not borne out by the absolute date of the charcoal sample (Sload 2007:19–20). The charcoal was located in a “5” layer, the bottommost *cascajo* fill that is believed to have leveled the floor of the cave contemporaneous with cave creation (Sload 2007:26–27). Beta 220760 matched the dates for termination activities. Although Beta 220760 possibly represents activity associated with cave creation, it did not seem likely based on the mid-ranges of cave creation dates (Sload 2007:19–20).

In 2009 I investigated the anomaly by dating two additional charcoal samples from “5” layers in Area C West pit (Figure 2; Sload 2011). Supplemental Figure 3 shows the relationships between the original sample, Beta 220760, and the new samples, Beta 266129 and Beta 266130. Layer 5e, resting on bedrock, was a bright red loose *cascajo* fill with a minor *tepetate* component (Altschul 1978a:134). Layers 5d and 5h were a mixed *cascajo* and *tepetate* fill that contained

significant charcoal and were differentiated from one another seemingly only by location: Layer 5h was under cleared Blockage 12 and Layer 5d was west of the blockage (Altschul 1978a:133–135). Stratigraphy was typical. The “5” layers were covered by “4” layer *tepetate*, “3” layer *cascajo* fill, concrete floor west of Blockage 12 and packed earth beneath where Blockage 12 used to span the width of the cave (Supplemental Figure 1).

Beta 266129 and Beta 266130 also are late dates (Table 1). Their consistency adds clarity, suggesting that Beta 220760 is best interpreted as relating to termination (Sload 2011). The hypothesis is that termination activities impacted fill to bedrock in this particular section of the cave. The 10 radiocarbon dates from Area C suggest that this probably occurred in association with the covering of Rock 2, a topic that exceeds the scope of this work (Supplemental Figure 3).

The second line of evidence derives from excavation data. One clue also relates to the “5” layer fills from Area C West pit. Layers 5c, 5d, 5e, 5g, and 5h had no ceramics or other artifacts (Altschul 1978a:134–136). Although ambiguous on the question of whether *cascajo* could have been imported from another subterranean source, this clearly supports other evidence indicating that redeposited fill was not used in the cave. Support that the *cascajo* came from the cave itself may be that the cave ceiling is “strangely free of soot” (Millon 1981:234). Obtaining termination fill by knocking down a sooted ceiling would explain the nearly pristine condition of the ceiling in 1978.

Another clue suggests an internal origin for the matrices of layers “under the concrete.” The posthole in Area B West pit contained a *cascajo* fill that was collected as Layer 3b, the constricted bottom of the hole, and Layer 3a, the part above it (Altschul 1978a:75; Sload 2007:Figure 11). Beta 220749 and Beta 220750 supported the idea that the posthole belongs to

the Teotihuacan era of cave use (Sload 2007:24). Layer 3b is *completely* devoid of macrobotanical material.<sup>1</sup> This almost certainly would not be the case if the fill had been obtained from anywhere other than the immediate vicinity of the posthole. Layer 3a is characterized by the persistent low level of macrobotanical remains found almost uniformly throughout the cave.

These details support the hypothesis that undisturbed “under the concrete” deposits accurately reflect ancient behavior and produce legitimate radiocarbon dates.

### *Contexts of Use Dates*

This section provides excavation data supporting interpretation of Beta 220747, Beta 208984, Beta 220764, Beta 229750, and Beta 220746 as representing cave use (Table 1).

Beta 220747 dated a 10-cm-thick charcoal concentration at the mouth of the terminus in Area B (Figure 2). The *tepetate* matrix was discolored in the area of the charcoal, perhaps suggesting in situ burning, although ash was not detected (Altschul 1978a:69). Beta 220750, also from Area B, was a charcoal concentration at a depth of almost 50 cm in the *cascajo* fill of the posthole (Altschul 1978a:75).

Beta 220746 was the only sample from the terminus itself. As part of the excavation in Area B, the TMP cleared rubble from the northeast pillar at the entrance to the North Chamber (NE Pit in Figure 2). The purpose was to determine whether previous excavation extended completely to the wall of the chamber, which turned out to be the case (Altschul 1978a:76–77). A section of the Teotihuacan-constructed pillar collapsed during excavation, revealing mud mortar containing charcoal and wood (Altschul 1978a:81). Beta 220746 dated the charcoal and represented the only chance of dating the terminus. Considered in isolation the date could

represent the tail end of cave construction, if the  $2\sigma$  lower limit of cal A.D. 74 is the correct date. Considered in the context of the other TE28 dates, especially Beta 220747 and Beta 220750 from Area B, Beta 220746 may represent repair or modification of the pillar.

Beta 220764 and Beta 208984 were fire pits. The former rested on a layer of *tepetate* (Altschul 1978a:153) and appears to have provided light at the cave entrance. Beta 208984 was set into a *tepetate* matrix between Blockages 11 and 12 in Area C. It dated one of the largest charcoal samples from TE28, suggesting it may represent multiple fires, at least some during the period of cave use.

#### *Contexts of the 2009 Dates*

I dated four charcoal samples in 2009—Beta 266127, Beta 266128, Beta 266129, and Beta 266130. All are related with termination activity.

Beta 266127 dated a large quantity of charcoal in a “4” *tepetate* layer beneath the concrete floor in Area C East pit (Altschul 1978a:121). The sample produced one of the latest dates (Table 1). Activity associated with termination is suggested.

Beta 266128 was charcoal located between the excavated wall of the cave and the stacked rock wall that delimits the current path (Figure 2). I hoped to shed light on the timing of construction of the stacked rock wall. The late date may mean that the wall was a late Teotihuacan feature, perhaps constructed as part of termination, although other possible explanations exist. At any rate, the relocated charcoal seems to relate to termination activities.

Beta 266129 and Beta 266130 are discussed above.

## **Supplemental Note**

<sup>1</sup> The TE28 field crew collected samples from every excavated layer for flotation analysis, which was performed in Emily McClung de Tapia's Laboratorio de Paleoetnobotánica y Paleoambiente at the Instituto de Investigaciones Antropológicas, Universidad Nacional Autónoma de México.