

Figure F1. Bathymetric map of the equatorial Pacific Ocean indicating locations of Site U1489 (02°07.19'N, 141°01.67'E; 3400 mbsl) and Site U1490 (05°48.95'N, 142°39.27'E; 2300 mbsl) on the Eauripik Rise in the Western Pacific Warm Pool. Contour interval = 500 m. Bathymetric data from Amante and Eakins (2009); figure modified from Rosenthal et al. (2018a).

Plate P1. *Dentoglobigerina baroemouensis* (S1); Sample 363-U1490A-23H-CC, 18–23 cm; middle Miocene Subzone M9a. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. Evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P2. *Dentoglobigerina baroemouensis* (S2); Sample 363-U1490A-24H-CC, 11–16 cm; middle Miocene Zone M8. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, and (I) spiral view. Evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P3. *Dentoglobigerina baroemouensis* (S3); Sample 363-U1490A-23H-CC, 18–23 cm; middle Miocene Subzone M9a. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, (F) spiral view. Wall texture SEM images of (G) umbilical view and (H) edge view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P4. *Dentoglobigerina baroemouensis* (S4); Sample 363-U1490A-34X-CC, 32–37 cm; lower Miocene Subzone M1b. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, (F) spiral view. Wall texture SEM images of (G) umbilical view and (H) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P5. *Dentoglobigerina binaiensis* (S5); Sample 363-U1489D-27X-CC, 18–23 cm; lower Miocene Zone M3. Z-stacker images of (A) umbilical view, (B) edge view, (C) and spiral view. Scanning electron microscope (SEM) images of (D) umbilical view and (E) edge view. Spiral view not obtained. Wall texture SEM images of (F) umbilical view and (G) edge view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P6. *Dentoglobigerina binaiensis* (S6); Sample 363-U1489D-27X-CC, 18–23 cm; lower Miocene Zone M3. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P7. *Dentoglobigerina globosa* (S7); Sample 363-U1490A-23H-CC, 18–23 cm; middle Miocene Subzone M9a. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. Evidence of possible spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P8. *Dentoglobigerina globosa* (S8); Sample 363-U1489D-27X-CC, 18–23 cm; lower Miocene Zone M3. Z-stacker images of (A) umbilical view, (B) edge

view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P9. *Dentoglobigerina globosa* (S9); Sample 363-U1490A-24H-CC, 11–16 cm; middle Miocene Zone M8. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, and (I) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P10. *Dentoglobigerina globularis* (S10); Sample 363-U1490A-34X-CC, 32–37 cm; lower Miocene Subzone M1b. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, and (I) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P11. *Dentoglobigerina tripartita* (S11); Sample 363-U1489D-27X-CC, 18–23 cm; lower Miocene Zone M3. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P12. *Dentoglobigerina tripartita* (S12); Sample 363-U1490A-24H-CC, 11–16 cm; middle Miocene Zone M8. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view and (H) edge view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P13. *Dentoglobigerina* cf. *D. tripartita* (S13); Sample 363-U1490A-25H-CC, 16–21 cm; lower-middle Miocene Zone M6. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view and (H) edge view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P14. *Dentoglobigerina tripartita* (S14); Sample 363-U1490A-34X-CC, 32–37 cm; lower Miocene Subzone M1b. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).

Plate P15. *Globoquadrina dehiscens* (S15); Sample 363-U1489D-27X-CC, 18–23 cm; lower Miocene Zone M3. Z-stacker images of (A) umbilical view, (B) edge view, and (C) spiral view. Scanning electron microscope (SEM) images of (D) umbilical view, (E) edge view, and (F) spiral view. Wall texture SEM images of (G) umbilical view, (H) edge view, (I) spiral view, and (J) spiral view. No evidence of spine holes. Scale bars = 100 µm (whole specimens) and 10 µm (close-up images).