Figure F1. Bathymetry of Guaymas Basin with Baja California in the southwest and the Sonora margin in the northeast, showing all DSDP Leg 64 and IODP Expedition 385 sites drilled in the area. Seismic = seismic transects conducted prior to Expedition 385. Inset: tectonic setting of the Gulf of California; green shading = Guaymas Basin; blue box = main figure area. Contour lines = 200 m. DSDP = Deep Sea Drilling Project.

Figure F2. Conceptual model of interacting tectonic, igneous, sedimentological, and microbial processes at work in Guaymas Basin and the associated carbon pathways.

Figure F3. Migrated stack of seismic data from *Maurice Ewing* Cruise EW0210 Transect 3 (see Figure F1), along which Sites U1545, U1546, U1548, and U1551 are located. Blue line = maximum penetration depths.

Figure F4. Bathymetric map, Sites U1545 and U1546. Seismic Lines AH-0102 and crossing Seismic Lines AH-0304 and AH-0506 are also shown. The locations of drilled holes at each site are not distinguishable at the given scale. Contour lines = 20 m.

Figure F5. Lithostratigraphic column, Site U1545. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger. All data on display obtained from Hole U1545A, including the lithostratigraphic information.

Figure F6. Lithostratigraphic column, Site U1546. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger. All data on display obtained from Holes U1546A and U1546C, including the lithostratigraphic information.

Figure F7. Bathymetric map showing all holes drilled inside and outside the circular hydrothermal mound structure called Ringvent, Sites U1547 and U1548. Locations of seismic crossing lines are also indicated. Contour lines = 5 m.

Figure F8. Lithostratigraphic column, Site U1547. Lithologic column represents Hole U1547B. Data are from Hole U1547A except ~130–150 mbsf, where data are from Hole U1547C (magnetic susceptibility [MS] peaks are out of scale and not entirely plotted). The MS plot shows no data between ~150 and 210 mbsf because this interval corresponds to the igneous sill where Fe-rich igneous rocks yield MS values two orders of magnitude higher than adjacent sediments. NGR = natural gamma radiation, cps = counts per second, WRMSL = Whole-Round Multisensor Logger.

Figure F9. Lithostratigraphic column, Holes U1548A–U1548C. Data are from Hole U1548A. Lithostratigraphy and natural gamma radiation (NGR) are plotted separately for Hole U1548C. cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger.

Figure F10. Lithostratigraphic column, Holes U1548D and U1548E. Data are from Hole U1548D. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger.

Figure F11. Bathymetric map showing Site U1549, which is situated along Seismic Line SO-008 approximately 700 m northwest of a seafloor mound where cold-seep fauna exists. The locations of drilled holes are not distinguishable at the given scale. Contour lines = 2 m.

Figure F12. Lithostratigraphic column, Site U1549. The natural gamma radiation (NGR), magnetic susceptibility (MS), and color reflectance b* (all from Hole U1549A) support a single-unit interpretation but highlight the characteristics of the four thick terrigenous units (1–4). cps = counts per second, WRMSL = Whole-Round Multisensor Logger.

Figure F13. Bathymetric map, Site U1550. DSDP Site 481 is also shown. Contour lines = 2 m.

Figure F14. Lithostratigraphic column, Site U1550. Lithostratigraphic and physical property data are derived from Hole U1550A. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger.

Figure F15. Bathymetric map of Site U1551 and its surrounding area. Multiple preexpedition seismic lines, including EW-tran3, are also shown. The seafloor bathymetry reflects the mode of predominant mass-gravity sediment deposition. Site U1551 is sited at the edge of a large slide deposit that is imaged in the seismic data. The locations of drilled holes are not distinguishable at the given scale. Contour lines = 10 m.

Figure F16. Lithostratigraphic column, Site U1551. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger.

Figure F17. Bathymetric map showing Holes U1552A–U1552C, which are situated along Seismic Line SO-112. Holes U1552A and U1552B were drilled just 5 m apart from each other, so their locations are not distinguishable at the given scale. Seafloor cold-seep communities are known to be present ~200 m north and ~800 m northwest of Hole U1552A near the closed contour of 1844 m water depth. Contour lines = 1 m.

Figure F18. Lithostratigraphic column, Site U1552. Data on right are from Hole U1552A. Two distinct terrigenous beds are indicated (1 and 2), which can be correlated between Holes U1552A and U1552C. NGR = natural gamma radiation, cps = counts per second, MS = magnetic susceptibility, WRMSL = Whole-Round Multisensor Logger.