

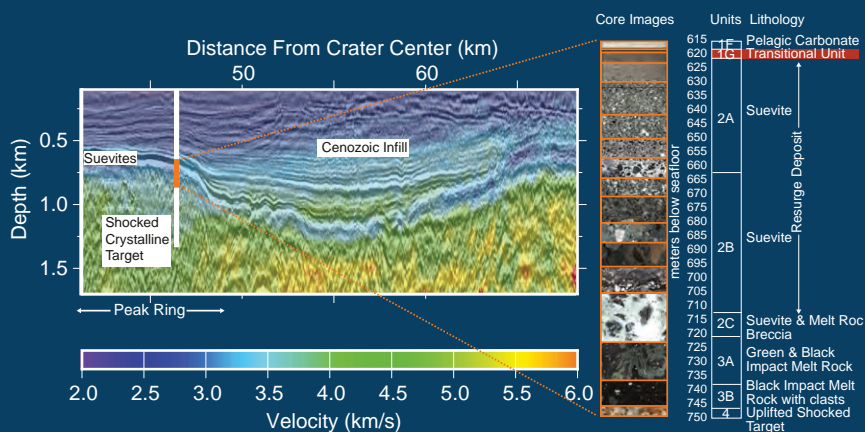
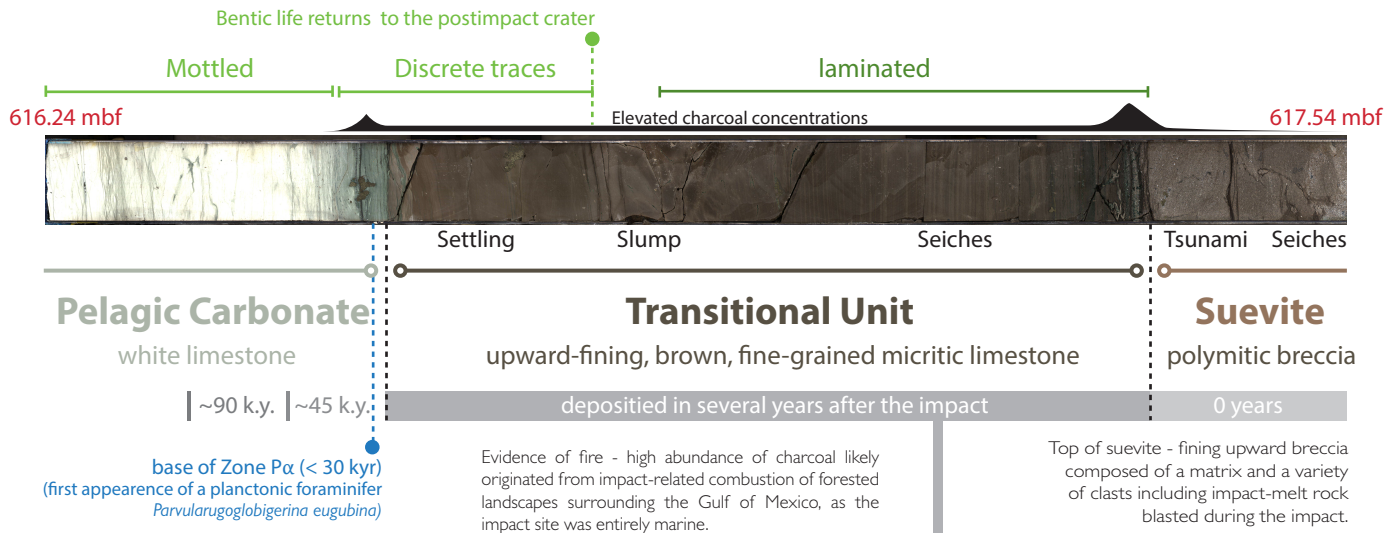


Chicxulub Impact Sequence

Transitional Unit (616.24-617.54 mbf)

Exp 364 Chicxulub K-Pg Impact Crater

Core **364-M0077A-040R-001**: Postimpact Resurge, Settling, Seiches, and Tsunami



Chicxulub Impact Sequence

Sequential impact processes that occurred 66.0 Ma began in the moments after impact and ended when the crater was fully formed and flooded and seiches (standing waves) and tsunami (shallow water waves reflected back into the impact basin) have subsided (Gulick et al., 2019).

Exp 364 Chicxulub K-Pg Impact Crater

The liftboat *Myrtle* retrieved a **complete sequence of rocks** that form the peak ring of the Chicxulub impact crater, in the Gulf of Mexico, 20 km NW Progreso.

These rocks resulted from a huge meteorite impact that hit the region 66 million years ago. The Chicxulub crater is the known terrestrial impact structure that has been directly linked to a mass extinction event and the only terrestrial impact with a global ejecta layer.

Chicxulub's role in the Cretaceous/Paleogene (K-Pg) mass extinction and its exceptional state of preservation make it an important natural laboratory for the study of both large impact crater formation on Earth and other planets and the effects of large impacts on Earth's environment and ecology.

References:

Morgan, J., Gulick, S., Mellett, C.L., Green, S.L., and the Expedition 364 Scientists (2017) - Chicxulub: Drilling the K-Pg Impact Crater. Proceedings of the International Ocean Discovery Program, 364: College Station, TX (International Ocean Discovery Program) - doi:10.14379/iodp.

Gulick, S. P.S., Bralower, T., Ormó, J., Hall, B., Grice, K., Schaefer, B., Lyons, S., Freeman, K. H., Morgan, J., Artemieva, N., Kaskes, P., de Graaf, S., Whalen, M., Collins, G., Tikoo, S. M., Verhagen, C., Christeson, G. L., Claeys, P., Coolen, M., Goderis, S., Goto, K., Grieve, R., McCall, N., Osinski, G., Rae, A., Riller, U., Smit, J., Vajda, V., Wittmann, A., and Expedition 364 Scientists (2019). The first day of the Cenozoic. Proceedings of the National Academy of Sciences. 116. 201909479. 10.1073/pnas.1909479116.

