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Poster Presentation

Comparison of Stable Isotopes in Pool Spar and Pool Fingers

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The research performed is comparing isotope values of different features within a cave to try to explain whether they are microbial mediated or abiologic crystal growth. Microbial mediated means that it is a biologic growth and not a geologic crystal growth. There is previous data from pool fingers in this area that shows there is microbial carbon isotope. Pool fingers are suspected to be biologic. Pool spar is considered abiologic. The samples for this project are in pool spar, and the data will be compared to the previous pool finger data.

The goal is to explain how some features are formed in comparison with other features in the same cave system. First thin sections were examined under a microscope to take pictures and piece them together to get a large picture of the sample at a magnified level. After looking at these photos locations were chosen to drill out to make powder to send out for isotope analysis. The powder was put into vials and sent to Southern Methodist University for analysis. The locations were chosen by looking at differences in the fabric. Layers were chosen that were darker, intermediate, and light/almost clear in color. There were similarities in the layering between fabrics; the similar layers among samples will be compared with the other corresponding layers, along with the comparison within each sample.

Isotope values have been compared to the fabrics that they were extracted from. They have some numbers that are very similar in similar fabrics, and some in similar fabrics that the values are not matching. These data from pool spar are going to be compared to previous work in pool fingers.