

My name is Kristi Sexton-Rodriguez, and I am a geology major in my senior year at the University of Nevada, Las Vegas. I am using geochemical modeling to better understand past water-rock interactions and paleoclimate within the petrocalcic soil horizons of Mormon Mesa, Nevada.

Mormon Mesa is one of the oldest extant petrocalcic horizons on Earth, largely undisturbed for the past 5 million years. This provides us the opportunity to test hypotheses regarding progressive petrocalcic soil development, testing factors such as atmospheric CO<sub>2</sub> concentrations and Ca<sup>2+</sup> dust influxes. I am most interested in the stages of development that produce concretionary structures because these materials record past dissolution and recrystallization events.

I plan to further develop this work as my independent study and senior thesis. After graduation in the spring of 2023, I would like to begin working on my master's in geoscience at UNLV.