

Isabella Welch, University of California, Santa Barbara, Santa Barbara, California, USA for their project: *Mineralogy and Enrichment Mechanisms of Clay Hosted Lithium in The Red Mountain Deposit, Nye County, Nevada.*

Isabella Welch is a Masters student studying volcano-sedimentary Lithium in the Earth Science Department at the University of California, Santa Barbara working under the supervision of Dr. Phillip Gans. Isabella also obtained her B.S in earth science from the same institution and completed a senior honors thesis on the epithermal mineralization and structure of the Calico Silver deposit in the Mojave, CA with Dr. Gans.

Isabella's masters thesis focuses on the enrichment of lithium in the Red Mountain deposit in east-central Nevada. This deposit is hosted in the lacustrine sediments of the miocene Horse Camp formation, which is primarily composed of volcanic detritus from older silicic volcanic rocks in the surrounding area. Venari Minerals has identified widespread high grade lithium mineralization (up to 5,000 ppm) in certain clay rich horizons. This project aims to identify the clay mineralogy distributed throughout the basin and to quantify how lithium was concentrated to such a degree/at what stages mineralization may have occurred. To achieve this Isabella will perform comprehensive analysis of drill core and surface samples on the XRD/EDS to identify clay mineralogy and alteration assemblages. Preliminary work has identified high Mg smectites as the most abundant clay in high grade samples and the probable host.

Support from the Lipman Student Research Grant will allow Isabella to perform the bulk of her XRD and chemical analysis to identify clay/alteration minerals and their distribution. She is deeply grateful to be named a recipient of this grant and is thankful to the Geological Society of America for supporting her research.

