

Mackenzie Taylor, Miami University, for her proposal: *A Field Emission Scanning Electron Microscopy (FESEM) Investigation of the Texture and Mineralogy of Macrocrystalline Gold from Type 4 Ore from Round Mountain, Nevada*

The Round Mountain Gold Mine in Nevada is developed in a complex epithermal system where the primary host rock is an altered rhyolitic tuff. The type 4 ore deposit host lithology is Paleozoic siliciclastics and carbonates and ore grade mined is highly variable. The type 4 is also unusual in that it contains both disseminated and macrocrystalline gold. little is known regarding the paragenetic mineralization of gold in the type 4 ore because previous microscopy studies on gold from Round Mountain may have used samples that were rinsed in acids, removing most paragenesis minerals. Samples used in this study have not been rinsed in acids to preserve paragenesis minerals. This study aims to investigate mineral paragenesis, as well as geochronology of apatite both in macrocrystalline gold and disseminated gold within the bulk ore. This investigation should provide insight into the mechanisms and timing of gold mineralization, and help to explain why macrocrystalline gold occurs.