Metal clusters are of interest in exploring the transition from atomic to bulk properties in metals. Spectroscopic measurements of metal clusters also provide important benchmarks for theoretical investigations of bonding in metallic systems. In particular, theoretical predictions of properties of small Be clusters are highly dependent on the level of theory employed, and experimental data would provide an important test of the accuracy of the theoretical predictions. To obtain experimental data on the electronic structure of Be clusters, we have constructed a pulsed cavity ringdown spectrometer designed to measure gas-phase metal clusters. We generate the clusters via laser ablation of a metal rod followed by supersonic expansion of the ablated material. The supersonic expansion is then probed by cavity ringdown spectroscopy using an excimer-pumped pulsed dye laser. We will present preliminary results using the spectrometer to observe small clusters of Cu and Al in preparation for observing Be clusters. We will also present any data on Be clusters that are available.