Seth Guldin
Graduate Student
Materials Science and Engineering, Virginia Tech

“Characterization of Al-Mg-Ga sacrificial anode and corrosion by-products”

ABSTRACT

Schlumberger developed an Al-Mg-Ga sacrificial anode that was found to have age-hardenable properties as a result of the MgGa precipitates in the Al matrix. The idea is the material can be installed, serve its purpose and left to degrade, without costly recovery efforts. The degradability is an excellent economic consideration for the use of the material, but the potential environmental impacts are rarely considered. The material is being characterized using XRD, SEM and TEM. A dissolution study is also being performed to characterize the corrosion by-products and to estimate the fate of the precipitates when released into the environment.

BIOSKETCH

Seth Guldin is seeking his M.S. in Materials Science and Engineering under the advisement of Dr. Mitsu Murayama. He graduated from Virginia Tech in May 2015 with a B.S. in Nanoscience. Seth’s research involves the characterization of Aluminum sacrificial anodes and the corrosion by-products using TEM, SEM and XRD.