

# Making Aluminum from Lunar Regolith Simulants through Molten Salt Electrolysis

J. N. Ortega, J. Smith, F. Rezaei, D. Bayless, W. Schonberg, D. Stutts, and D. Han (handao@mst.edu)

Missouri University of Science and Technology, Rolla, MO 65409



## Overall Project Goals

- Reduction of lunar anorthite simulants to alumina
- Electrolytic reduction of alumina to produce aluminum
- Investigate the feasibility of producing aluminum using the proposed LISAP-MSE method.

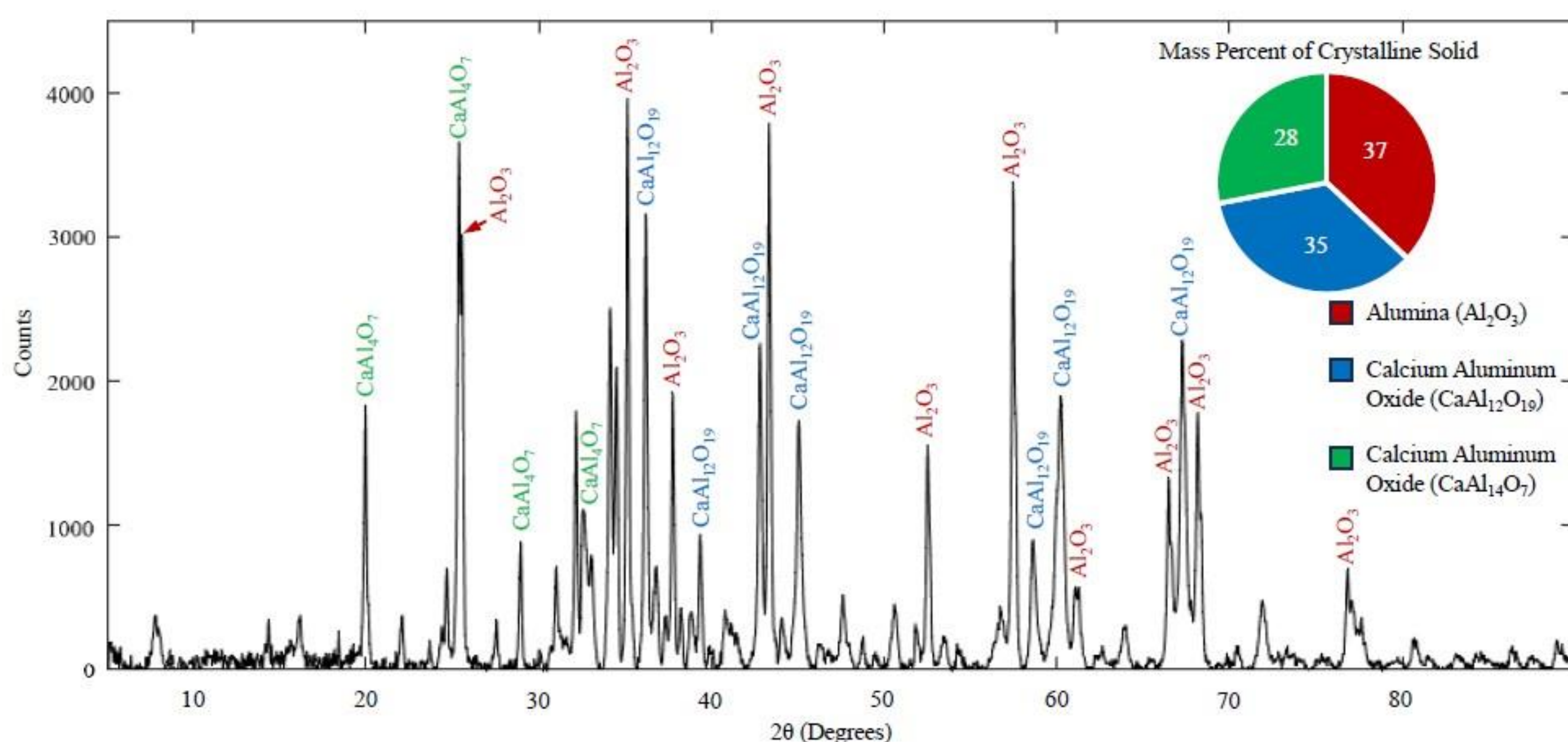


Figure 3: XRD Analysis of Leaching Products

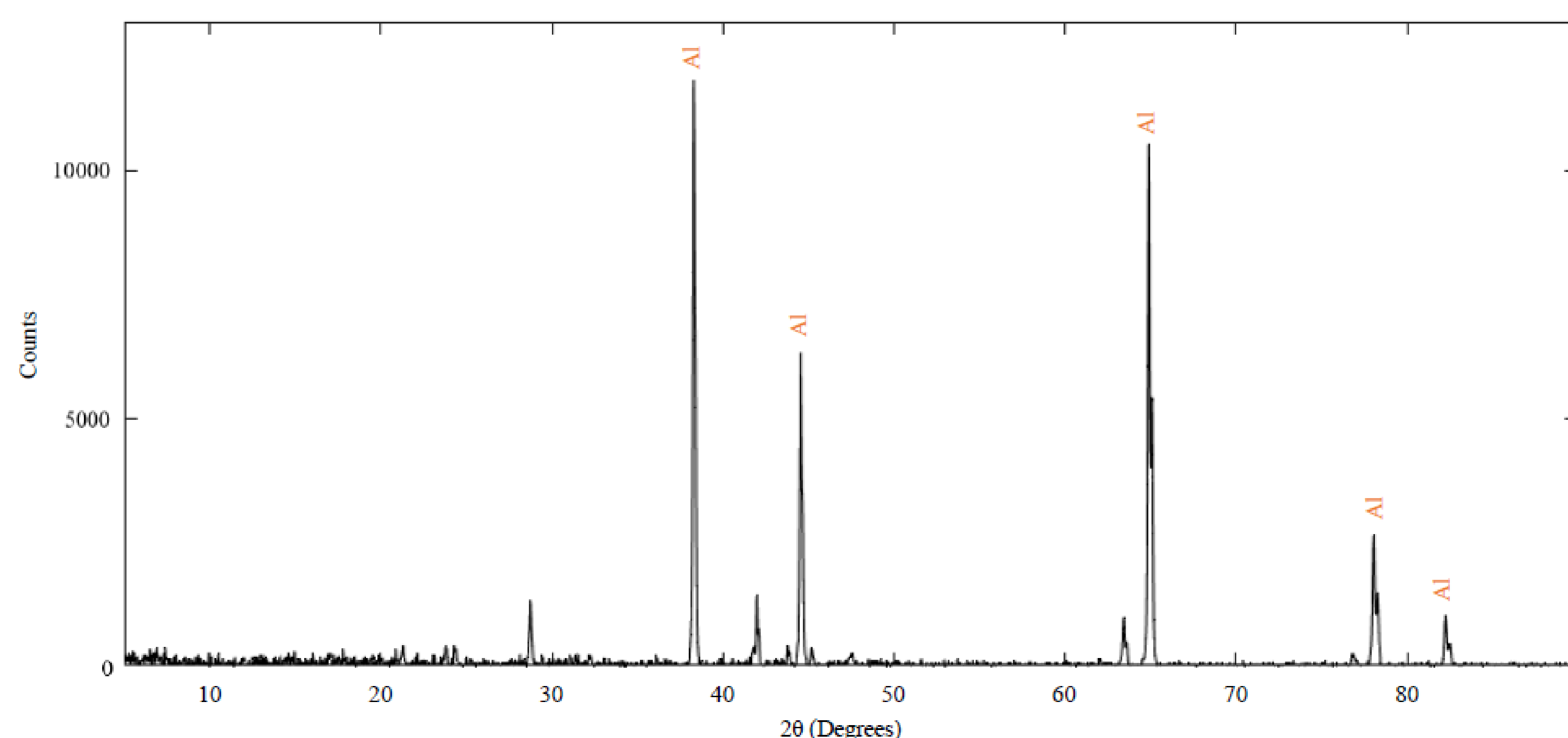


Figure 6: XRD Analysis of Electrolysis Products

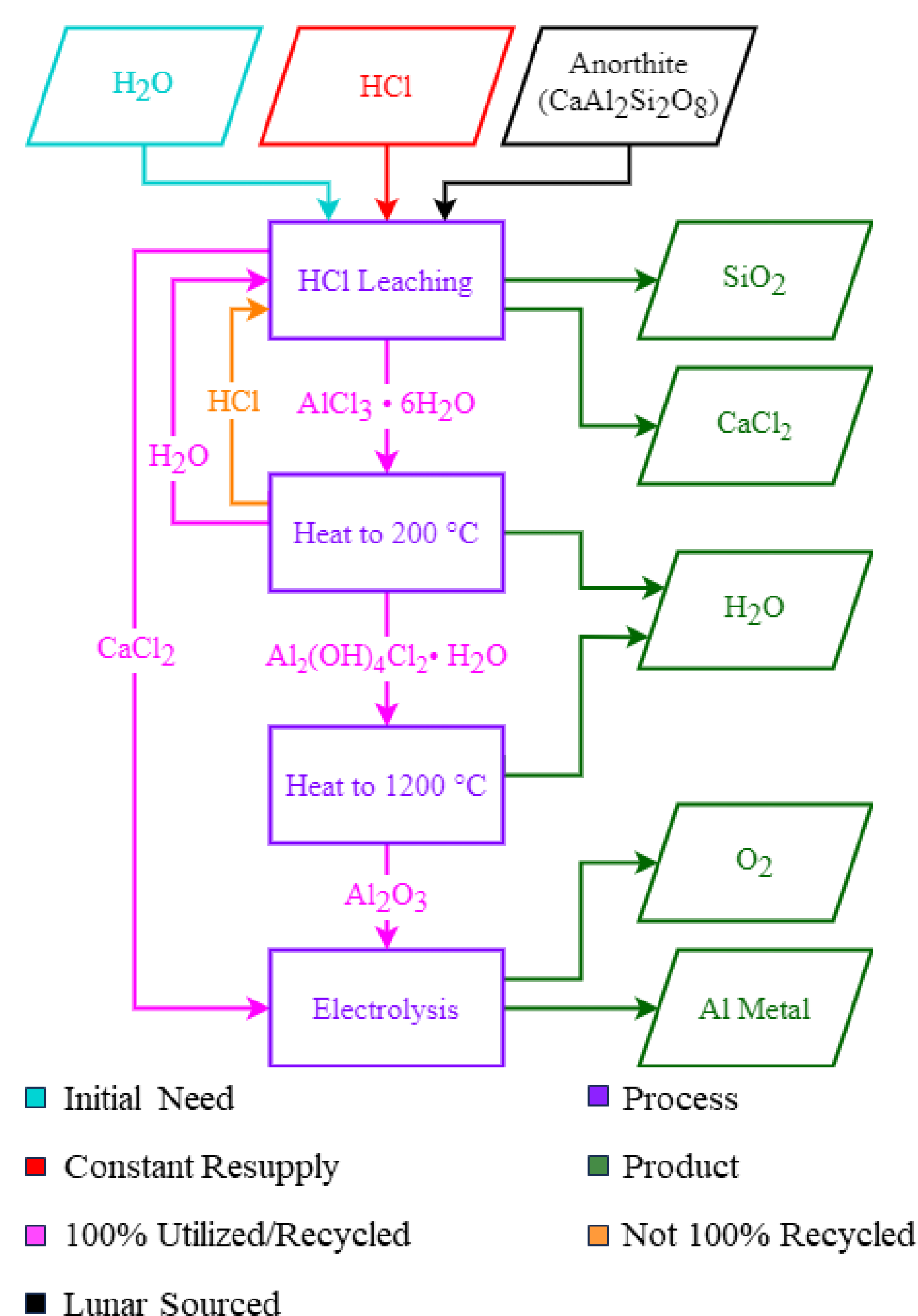


Figure 1: LISAP-MSE Processing Method

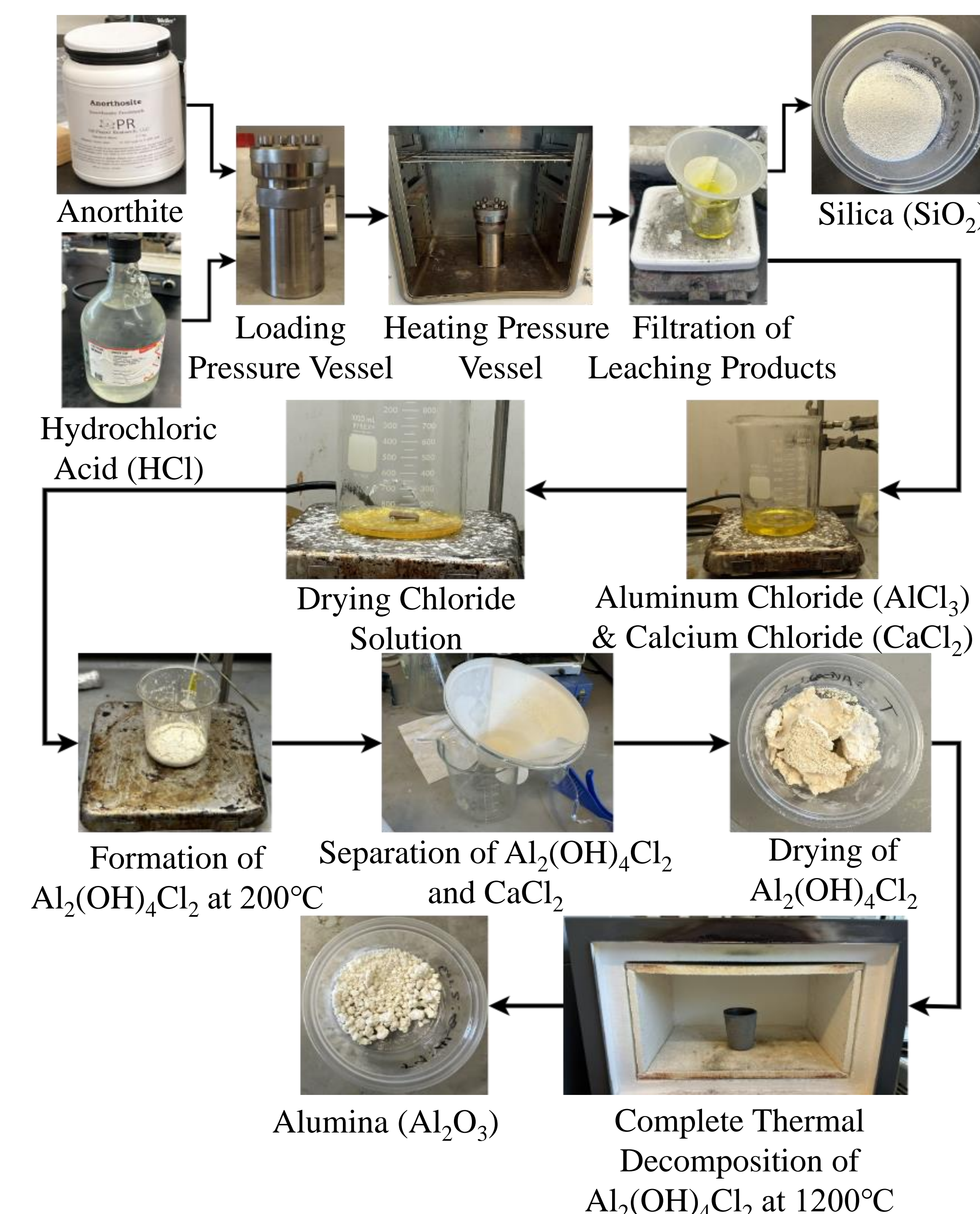


Figure 2: Leaching & Thermal Decomposition Flowchart

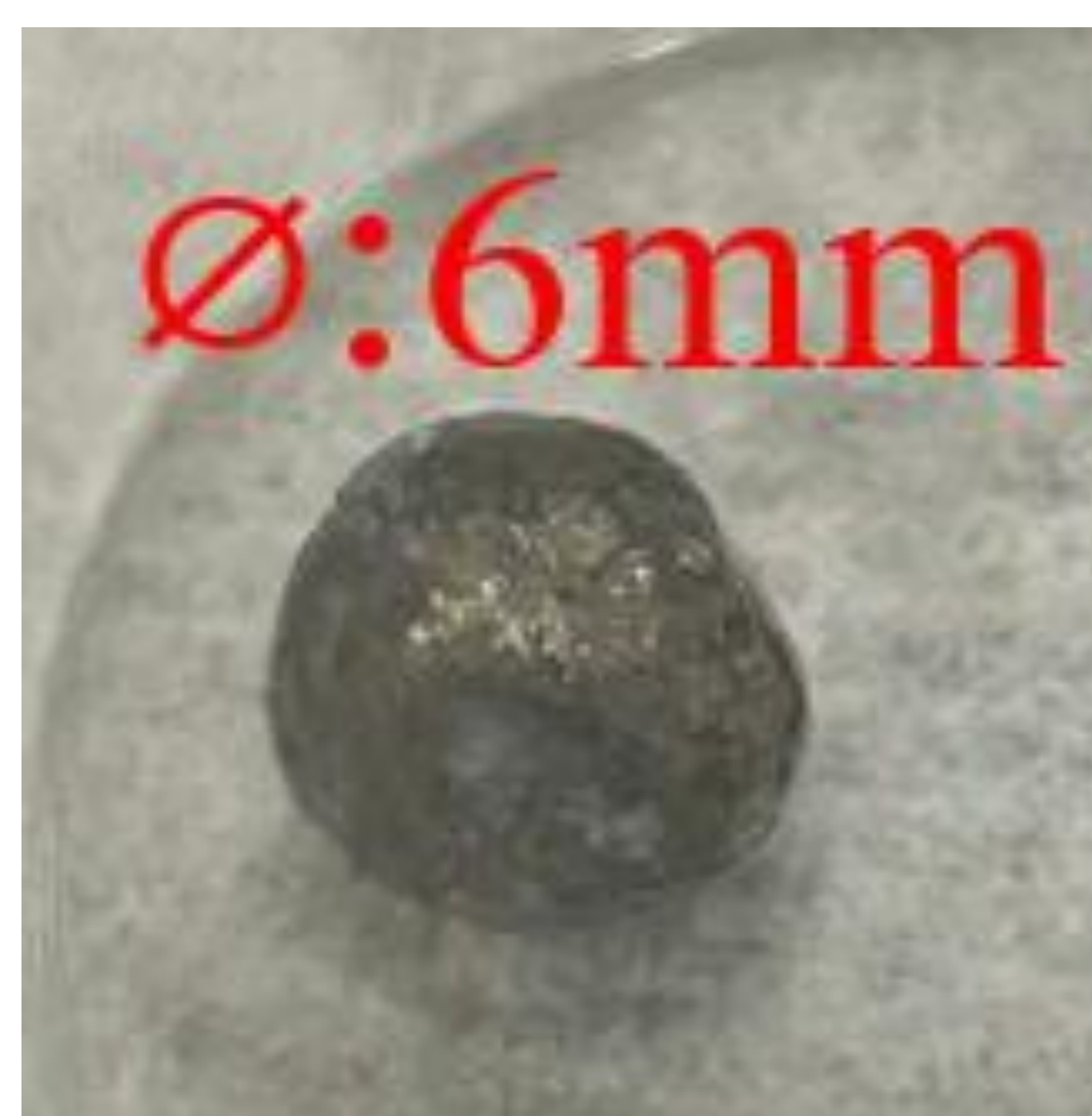


Figure 5: Electrolysis Product

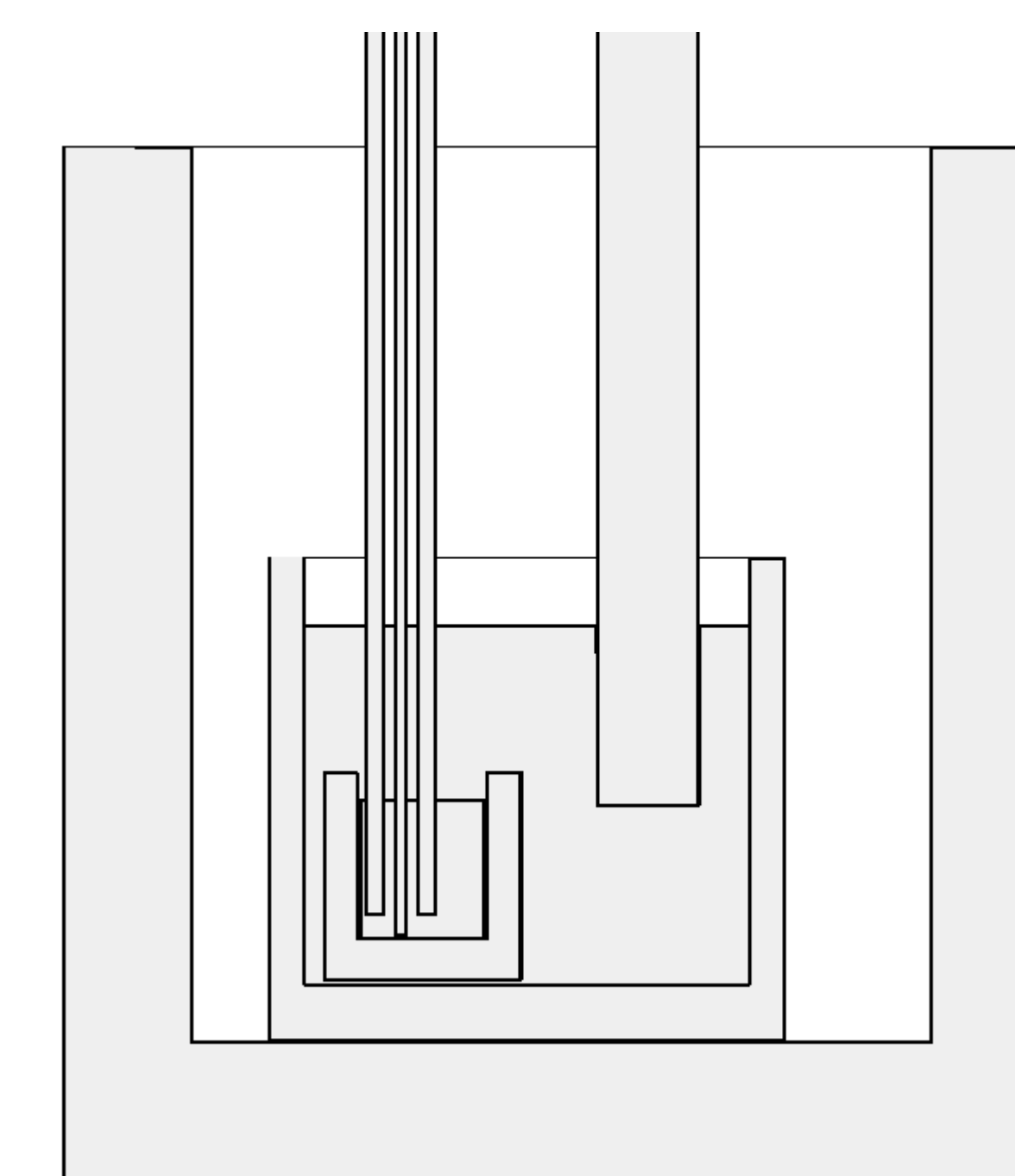


Figure 4: Drawing of the Electrolytic Cell



## Acknowledgments

This work was supported by NASA through the NASA BIG Idea Challenge 2023 and partially supported by the Missouri S&T Kummer Innovation and Entrepreneurship Doctoral Fellowship and Missouri Space Grant Consortium

