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**Abstract for Modification 50 between NETL and ExxonMobil Technology and Engineering Company to Multi-Project Cooperative Research and Development Agreement AGMT-0922 (AGMT-0922.PTS6)**

**Technical Feasibility of Recovering Critical Minerals from Oil and Gas Industry Produced Water**

Economic recovery of critical minerals from solid and liquid streams produced from natural resource extraction operations including Oil and Gas production, Mining, geothermal, and other industries can help alleviate shortage of the minerals important to industry. It is important to develop techniques for extraction that can be utilized at large scale to be economically viable, and to minimize waste products that require special disposal procedures.

NETL and Participant will collaborate to develop and evaluate at the lab-scale, a process to recover and concentrate critical minerals from oil and gas industry produced water using a combination of physical and chemical methods, so that it may be converted into a valuable product. This effort promotes a circular economy by converting a waste stream into marketable products.