## Carnegie Mellon University

Carnegie Institute of Technology

## THESIS

Submitted in partial fulfillment of the requirements for the degree of **Doctor of Philosophy** 

Measurement and Recovery of Rare Earth Elements from Hypersaline Fluids

> Clinton W. Noack June 17, 2015



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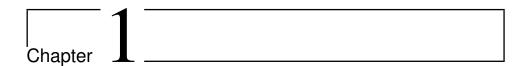
in

Civil & Environmental Engineering

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Introduction, problem identification, and research goals

- 1.1 Introduction
- 1.2 Problem identification
- 1.3 Research goals