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Self-Healing Cements with Improved Toughness at Casing and Formation Interfaces for Subsurface Applications

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May 2022

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Abstract

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Abstract

The goal of this project (developed for Topic 2) is to demonstrate that PNNL's self-healing cement (US Patent 20180044570A1) is a superior well construction material compared to conventional cement and to accelerate its commercial adoption. The project also enables a pathway toward a rigorous and reproducible EGS development approach that can be extended to high-temperature unconventional oil and gas reservoirs as well as low temperature carbon storage reservoirs. To achieve this goal, the project's objectives are to answer remaining technical questions and to address identified technical and market barriers. This project involves collaboration between PNNL, ARE, Cyrq Energy (under the auspices of ARE), and RC. This team demonstrates a strong technical partnership, linking theoretical and laboratory expertise with field-based geothermal resource management and well completions.

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