# PUBLIC EXECUTIVE SUMMARY

## Temperature Logging as a Mechanical Integrity Test (MIT) for Gas-Filled Caverns

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The natural gas cavern storage industry does not have a methodology for accurate gas-filled cavern well Mechanical Integrity Tests (MITs). Analysis of temperature log anomalies in North American gas cavern well completions has revealed that temperature log anomalies ("cold spots" or departures from linearity with depth) can be indicators of well leaks. The challenges in applying this technology to quantified gas-filled cavern MITs are threefold: (1) does a temperature anomaly ("cold spot") always indicate a leak, (2) can a leak magnitude be correlated to a temperature log anomaly magnitude, and (3) what protocol should be used for executing such an MIT.

In this project, we do not intend to completely address all three issues noted above; rather, we intend to execute a detailed feasibility study that will include documentation of case histories, preliminary modeling, and definition of modeling requirements to comprehensively evaluate the technology.