

## *Storage Opportunities in Arizona Bedded Evaporites*

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### A B S T R A C T

Arizona is endowed with incredibly diverse natural beauty, and has also been blessed with at least seven discrete deposits of bedded salt. These deposits are dispersed around the state and cover some 2,500 square miles; they currently contain 14 LPG storage caverns, with preliminary plans for more in the future. The areal extent and thickness of the deposits creates the opportunity for greatly expanded storage of LPG, natural gas, and compressed air energy storage (CAES). The location of salt deposits near Tucson and Phoenix may make CAES an attractive prospect in the future. The diversity of both locations and evaporite characteristics allows for much tailoring of individual operations to meet specific requirements.

The Oil and Gas Program Administrator, Arizona Geological Survey, is responsible for permitting storage wells for the Arizona Oil and Gas Commission. Rules covering Class II injection wells in Arizona (*Arizona Administrative Code* Title 12, Chapter 7) were amended January 2, 1996. Most are similar to rules in other states. The permit applicant must demonstrate the feasibility of a storage system at a particular site in a public hearing, and design solution-mined storage systems on site-specific geologic and engineering parameters. The rules provide the Commission discretion, however to grant exceptions to certain specific requirements if the applicant can show the exception is reasonable, justified, and consistent with the overall intent of the rules governing physical and environmental safety, conservation of the resource, and prevention of waste. R12-7-175 specifies classes of wells permitted by the Commission; R12-7-176 covers specific permitting requirements; R12-7-178 covers start up, abandonment, and transfer of injection wells; R12-7-179 covers testing, monitoring, and reporting requirements; R12-7-180 specifies supplemental requirements for storage wells; R12-7-181 covers design and construction requirements; and R12-7-182 specifies operation, inspection, and abandonment requirements.

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