ABSTRACT

TITLE:	Hydrothermal Dolomitization of Mississippian Leadville Limestone, Southwest Colorado: A Literature Review
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ABSTRACT: The Mississippian Leadville Limestone is a Paleozoic deposit (354-323 Ma) in the Paradox Basin with exposed outcrops in Montezuma County, Dolores County, and La Plata County of southwest Colorado. In the greater Paradox Basin, hydrothermal dolomites have been identified in the Leadville Limestone of the Lisbon Field (Chidsey, 2009) and the Aneth Field (Chidsey, 2009) with excellent hydrocarbon reservoir properties. This literature review discusses hydrothermally altered dolomites in SW Colorado and expands on a recently published initial study in La Plata County completed by Johnson et al., 2014. The hydrothermal dolomites of McElmo Dome and the Doe Canyon CO2 fields are areas of high potential reservoir rock that have yet to be fully investigated. Five primary hydrothermal dolomitization (HTD) controlling factors have been identified through a literature review of numerous regions. These include: 1) burial history; 2) tectonic setting; 3) heat and fluid controls; 4) facies and associated mineralization; and 5) controls on fluid migration. These five controlling factors provide insight into the potential of hydrothermal dolomites of the Leadville Limestone as effective reservoir rock in southwest Colorado. Specific applications towards the McElmo Dome and Doe Canyon fields are central to this literature review.