

UTILIZING OIL AND GAS GEOPHYSICAL LOGS TO SUPPLEMENT GROUNDWATER AQUIFER CHARACTERIZATION IN COLORADO, USA

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Oil and gas supplied geophysical logs play an important role in water resource investigations throughout Colorado. Numerous publications characterizing the Denver Basin aquifer system and other deep aquifers such as the Upper Pierre aquifer have been based on oil and gas supplied geophysical logs. These mostly publicly available datasets supplied by the state engineer have led to detailed characterization of the structure of shallow to deep groundwater aquifers. LRE Water often conducts projects where site specific investigations of sedimentary aquifer structure and heterogeneity are important to understand to guide the placement of production wells to maximize water yield and more recently in the application of aquifer storage and recovery (ASR) wells. The use of oil and gas supplied geophysical logs are critical to supplement these water resource investigations. Herein two case studies of aquifer characterization supplemented by information obtained from oil and gas geophysical logs in Colorado are presented.