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AN EXAMINATION OF THE VIABILITY OF ASR THROUGH WELL INJECTION IN THE ALBUQUERQUE AREA

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Aquifer Storage and Recovery (ASR) is a process for recharging aquifers from available surface water resources and recovering the water later when needed. We consider financial viability of well injection of water from the Rio Grande during wet years, followed by recovery at a later time for agricultural or other beneficial use. This process allows storage but aims to avoid the evaporative losses that plague open reservoirs. The injected water may have to undergo some treatment to meet water law requirements and to avoid well clogging. A secondary benefit may be the dilution of contaminants, such as arsenic, nitrates, or salts that may present in the well water, but that are not present in the river water. An important aspect of the problem is the determination of the financial viability of the well/water resource combination. The viability depends strongly on well parameters, such as the transmissivity and storage, geographical parameters, such as the distance between the well and the water resource and on the cost of materials. A simple program is developed for well/resource evaluation. The program was applied to a subset of Albuquerque water supply wells for which data was available.

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