

## **Presence of Deep High Quality Groundwater in El Mirage Valley, San Bernardino County, California**

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El Mirage Valley lies at the northern end of the Sheep Creek Fan north of the San Gabriel Mountains in San Bernardino County, CA. The valley is mostly comprised of a dry lake that is flanked by the Shadow Mountains and Adobe Mountains along its northwest side.

Our research shows that water levels have declined about 15 meters within the last 80 years. This area is home to a growing number of residents who depend on these groundwater resources. We have constructed a series of subsurface geologic cross sections for the El Mirage Valley groundwater basin using data from water well logs, geophysical methods, and gravity readings. These geologic cross-sections show that a two aquifer system exists under the valley. Currently, the consumers are pumping from the upper aquifer and the uppermost portion of the lower aquifer. However, the aquifer system extends to a depth of 762 meters. In addition, the water quality of the lower aquifer is better than the upper aquifer. Thus, a vast mineable resource exists in the area for future investigation.

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Dr. John Foster is a Professor at California State University, Fullerton. Dr. Foster earned his Ph.D. in Geology at the University of California, Riverside in 1980 on work investigating the sedimentary dynamics of plate interaction at Cajon Pass, California. He worked for 10 years in the Geotechnical and Environmental Geologic field with companies in Southern California studying and evaluating active faults, landslides, foundation conditions for large developments and public works as well as studies of site contamination including remediation and clean up. In 1989, he joined the faculty of Cal State Fullerton as an Engineering Geologist and taught courses in field geology and engineering geology and has overseen detailed research activities of over 35 senior thesis students. He has conducted research and published articles on research including groundwater studies in the Santa Clara and San Gabriel Watersheds, seismic hazards soil mapping in Los Angeles County, Flood hazard studies in lagoons of northern San Diego

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