

Indian Wells Valley Brackish Groundwater Feasibility Study

The objective of the Feasibility Study is to identify and quantify brackish groundwater resources, and evaluate the feasibility of development as an alternate water supply source within Indian Wells Valley (I WV).

Local groundwater is the only water source in I WV supplying all domestic, agricultural, military, and industrial users. Groundwater pumping in I WV began in the late 1800s. With continued urban and agricultural growth, groundwater pumping will increase to approximately 28,500 acre-feet per year (AFY) by 2020 in I WV. Groundwater levels in areas of groundwater pumping in I WV have been declining between 0.5 and 1.5 feet per year over the past 60 years (30 to 90 feet of decline).

Poorer-quality groundwater, with higher total dissolved solid (TDS) concentrations (>3,000 milligrams per liter [mg/L]) is present to the west, north, and east. Brackish groundwater represents a potential alternate source of water for I WV.

Aquilologic was retained by Indian Wells Valley Water District (I WVWD) and other funding partners to gather basin resource information and required data for two potential reverse osmosis (RO) concentrate receiving facilities. Data gaps in the basin conceptual hydrologic model (CHM) will be identified and work plans for collecting supplemental data will be prepared. Additional data will be collected using airborne and downhole geophysics. Additional groundwater monitoring wells and a brackish groundwater extraction pilot well will be installed. Salinity mapping and profiling will be used in conjunction with computer modeling to evaluate brackish groundwater pumping scenarios.

The Feasibility Study report will include information on the study area, as well as water supply, source water, and RO concentrate characteristics and facilities. A project alternative analysis will be performed leading to a recommended plan for implementation including details on construction financing and revenue generation.