

pumping rate of 3,900 gpm (DWR 1975). Depth to groundwater in the eastern part of the basin ranges from approximately 20 feet to 270 feet below ground surface (WorleyParsons 2009). There are 14 known groundwater wells within a two-mile radius of the Project Study Area (Figure 3.17-4). Two of these are owned by Kaiser Steel, and the remaining twelve are private wells.

Reported transmissivities range from 95 to 247,000 gallons per day per foot (gpd/ft), but are generally in the range of 45,000 to 147,000 gpd/ft. The perennial yield of the basin is between approximately 10,000 and 20,000 acre-feet per year (AFY) (BLM and CEC, 2010).

Groundwater budgets were developed for the Chuckwalla Valley groundwater basin for the Palen Solar Power Project EIS (BLM and CEC 2010) and the Genesis Solar Energy Project (WorleyParsons 2009). Both groundwater budgets identified recharge from precipitation as the greatest source of inflow to the basin, and groundwater pumpage as the greatest source of outflow from the basin. Both groundwater budgets indicated there was a net inflow into the basin, with the Palen Solar Power Project EIS identifying a net inflow of 2,608 AFY and the groundwater resources investigation for the Genesis Solar Energy Project identifying a net inflow of 2,446 AFY.

Historically, the greatest use of groundwater in the basin was for agriculture. The highest amount of recorded pumping in the basin occurred in 1986, when approximately 21,000 acre-feet (AF) was pumped, mostly for jojoba and asparagus farming, which had begun being planted in 1981. From 1950 to 1981, water levels were relatively stable in the basin, but during the years of highest water use, water levels declined in the vicinity of the pumping by up to 130 feet, indicating that groundwater levels in the basin are very sensitive to pumping. Since 1986, water use has stabilized in the range of 5,000 to 7,000 AFY, and groundwater levels between 1986 and 2002 recovered over 100 feet (Eagle Crest Energy Company 2008).

Eagle Crest Energy Company has proposed the construction of a pumped storage project within a mile of the proposed project site. The Eagle Mountain Pumped Storage Project will pump water from a lower reservoir to an upper reservoir using off-peak energy, and then run the water back down to the lower reservoir during high energy demand periods. The initial filling of the reservoirs (24,200 AF over two years) will be accomplished using either local groundwater or water purchased outside the basin.

Groundwater Quality

TDS concentrations in groundwater across the Chuckwalla Valley basin ranges from 274 to 12,300 mg/L, with the lowest concentrations occurring in the western part of the basin, where TDS concentrations range from 274 to 730 mg/L. EPA has established a secondary (non-mandatory) standard for TDS in drinking water of 500 mg/L, based upon potential odor and taste concerns (EPA 2009d). Overall, the TDS concentrations are considered high for domestic use, and the groundwater is considered to have elevated levels of sulfate, chloride and fluoride (DWR 2003).