

Water Supply Assessment and Well Development for Solar Project

Lancaster, California

CLIENT

First Solar Alpine Project

HIGHLIGHTS

- Assessed three wells
- Installed a new well below the contaminant zone
- Successfully completed project objectives on-time for timely construction

Clear Creek assessed three existing wells (two irrigation and one domestic) near Lancaster, California, including performing field activities, to determine if the wells and water (quality and quantity) would be suitable to support construction and operation of the solar field. The well assessment indicated two of the wells had elevated arsenic concentrations that exceed the maximum contaminant level (MCL), and the remaining well was not in compliance with Los Angeles County sanitary seal requirements.

Based on the water quality results and condition of the existing wells, Clear Creek recommended construction of a new well. The well borehole was drilled to a depth of 620 feet and based on the arsenic concentrations from the depth-specific (zonal) groundwater sample results, the well was installed to a depth of 540 feet. The well was constructed with 10.75-inch diameter steel casing with a 0.250-inch wall thickness, and 0.075-inch slots from 300 to 400 feet and 480 to 530 feet below land surface. The well was tested at over 200 gallons per minute for a period of 72 hours, but step-rate test data indicate the well was capable of operating at higher pumping rates.



Step-rate test data indicated that the newly constructed well was capable of operating at pumping rates higher than 200 gpm.