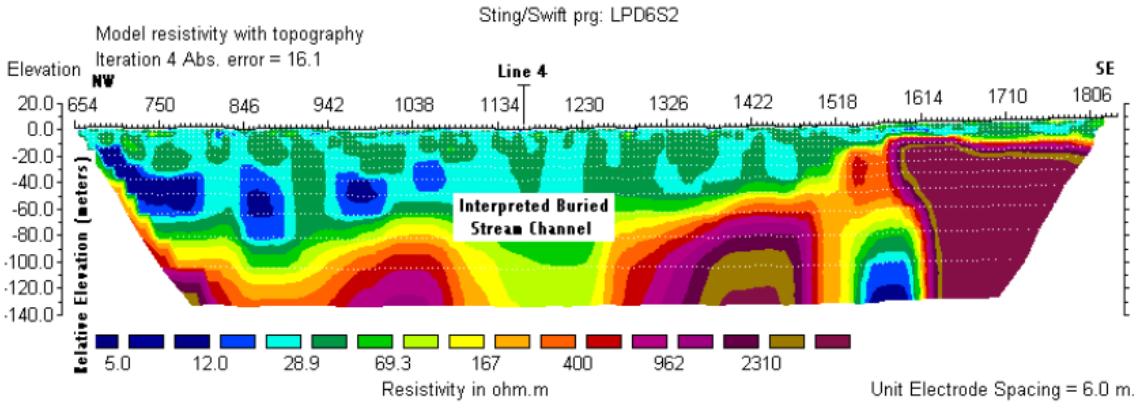
Water Well Siting – Resistivity – LAKE PERRIS, CALIFORNIA

A geophysical investigation was conducted at a property in Lake Perris, California to identify the center of a buried stream channel in granitic bedrock for placement of a municipal water well. Although 3 previous wells had been drilled into the estimated center of the buried channel (where both high water quality and high groundwater flow rates were anticipated), these wells had all yielded low water quality and poor groundwater flow rates. Spectrum was hired to provide an image of this paleochannel to a depth of at least 400 feet below ground surface.

Spectrum collected pole-dipole DC resistivity data along 4 transects using AGI's R8/IP SuperSting unit, six-meter cable and overlapping arrays of 56 electrodes. The transect shown was approximately 6000 feet long; subsequent transects were each approximately 2000 feet long. The electrical resistivity data revealed a broad low resistivity anomaly, (interpreted as the buried stream channel) at a depth of 124 meters (407 feet). Using the interpreted resistivity sections, a top-of-bedrock topo map was then generated to better illustrate the vertical and lateral extent of the buried stream channel. Subsequently, the Client placed a successful 4th well in the center of the interpreted buried stream channel and obtained high-quality water and 800 gpm of water flow.



Horizontal scale is 3.71 pixels per unit spacing
Vertical exaggeration in model section display = 1.50
First electrode is located at 654.0 m.
Last electrode is located at 1836.0 m.