

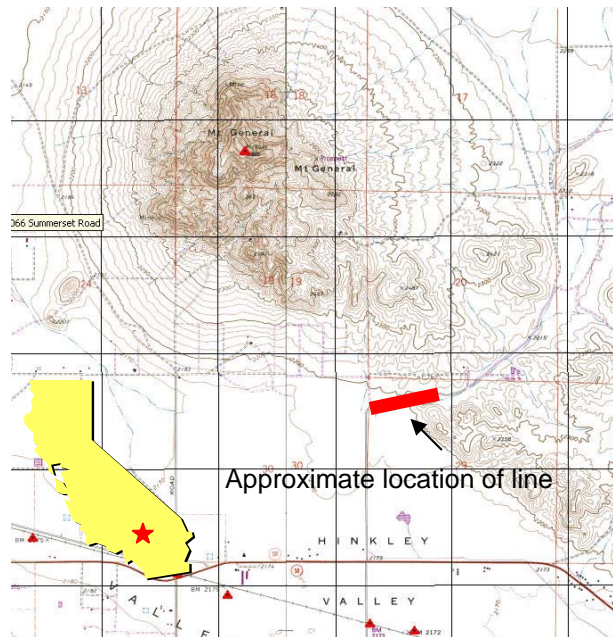
PROJECT BRIEF

GEOPHYSICAL INVESTIGATION MT. GENERAL FAULT, SAN BERNADINO COUNTY, CALIFORNIA

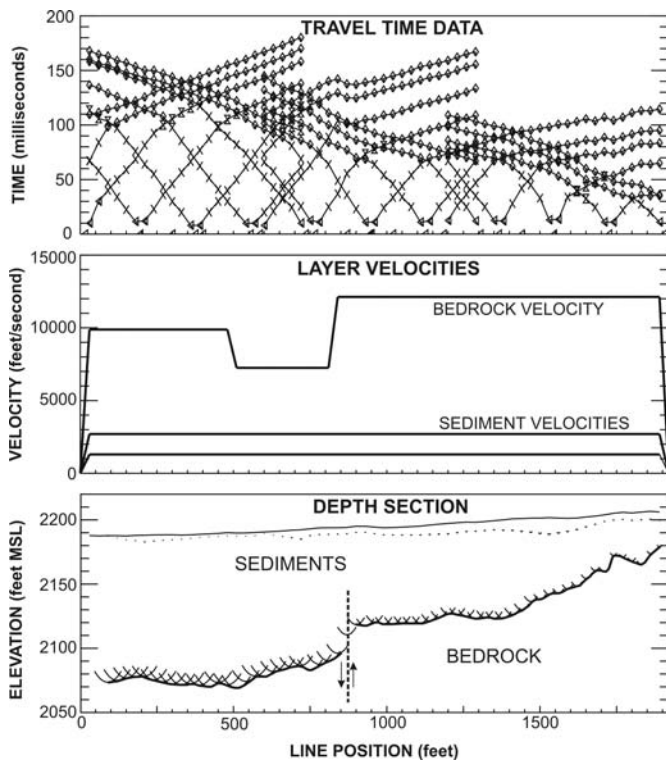
Project Description

A geophysical investigation was conducted to map the location of the Mt. General Fault near the Lenwood Hinkley Sanitary Landfill. The purpose of the investigation was to locate the fault so that groundwater monitoring wells could be appropriately placed. Several geophysical techniques were utilized to locate the fault including seismic refraction, electrical resistivity imaging and magnetics.

Figure 1 Approximate location of line



Work Performed



Seismic Refraction

The seismic refraction method was able to map bedrock topography in the vicinity of the fault and revealed that bedrock was abruptly downthrown on the southwest side of the fault (Figure 2). There were also significant contrasts in bedrock velocity on both sides of the fault. Bedrock depths are underestimated on the southwest side of the fault as the water table was found sitting immediately above the bedrock surface on the upthrown block and was a hidden layer on the downthrown site of the fault.

Figure 2
Seismic Refraction results

Resistivity

The resistivity survey (Figure 3) also revealed the location of the fault but the profile was not long enough to image the bedrock surface on the downthrown side of the fault. Although the resistivity survey was unable to image the contact between coarse-grained sediments and bedrock on the upthrown side of the fault it did provide some evidence of saturated sediments on the downthrown side of the fault.

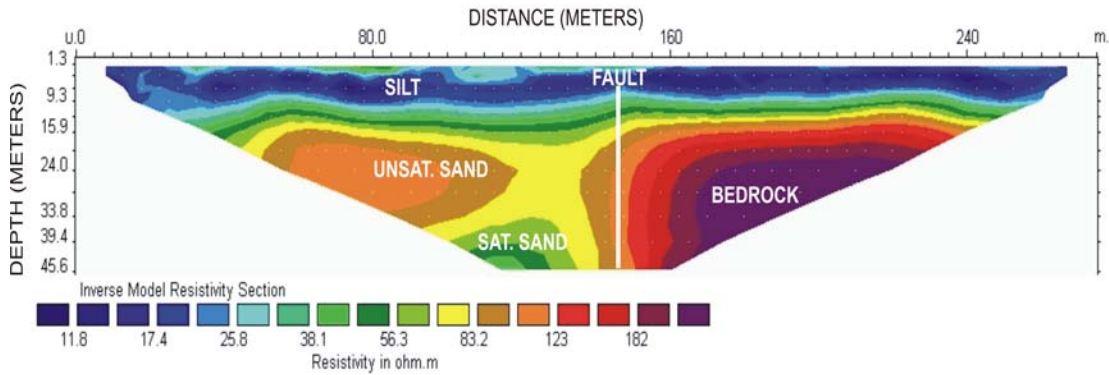


Figure 3 Resistivity Survey results

Magnetic

A magnetic survey (Figure 4) also located the fault with a magnetic high on the downthrown side of the fault indicating different bedrock types on each side of the fault with the bedrock on the downthrown side of the fault having a higher magnetic susceptibility than that on the upthrown side. This contrast in magnetic properties of bedrock on both sides of the fault continued about 2 miles to the northwest, at which point the magnetic method was unable to map the fault indicating that similar bedrock types were located on both sides of the fault to the northwest.

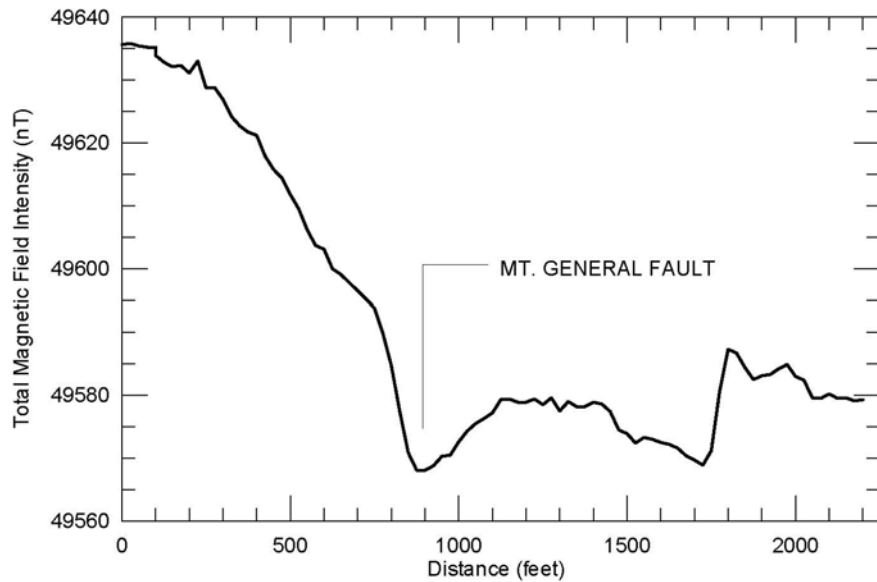


Figure 4
Magnetic Survey results