

Drill Site Selection:

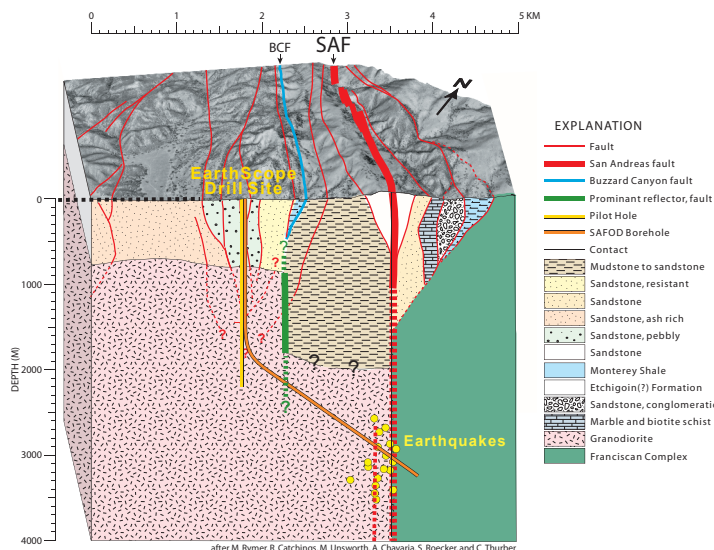
Why Parkfield?

The Middle Mountain site at Parkfield, CA was determined through a comprehensive evaluation process to be the best location for EarthScope to drill the San Andreas Fault Observatory at Depth.



At the surface, near the drill site, the San Andreas fault is creeping at a rate of about 2cm/yr, with most of the fault displacement localized to a zone no more than 10m wide. Numerous earthquakes occur directly on the San Andreas Fault at a shallow depth. The surface creep and shallow seismicity allows for the fault's subsurface position to be accurately located and targeted. In addition, most earthquakes near the site repeat in a characteristic manner. The borehole is exploiting this discovery by targeting these specific earthquake locations. The target earthquakes are expected to repeat numerous times during the EarthScope project.

There is a clear geologic contrast across the fault with shallow granitic rocks on the west side of the fault and Franciscan mélange on the east. The granitic rocks provide for good drilling conditions and so the drill site was located to the west of the fault.



The Parkfield region is the most comprehensively instrumented section of a fault anywhere in the world, and has been the focus of intense study establishing its geological and geophysical framework over the past two decades as part of the US Geological Survey's Parkfield Earthquake Experiment.

