



# FAULT HAZARD ASSESSMENT INVESTIGATION for the Proposed Costa Azul LNG Terminal Facility Baja California, Mexico

## PROJECT DESCRIPTION

*Earth Consultants International* conducted a fault investigation to assess the potential for surface faulting for a proposed liquefied natural gas (LNG) facility at Costa Azul, Baja California (Figure 1). The site lies ~75 km south of the US-Mexico border on the actively deforming Salsipuedes headlands (Figure 1). The most significant potential seismic source in the vicinity is the Agua Blanca - Descanso fault zone, which lies 5 to 12 kilometers offshore and has a slip rate of 4 to 5 mm/yr. An assessment of significant faults within 100 km of the site was conducted and exposures along the sea cliff of the La Jovita (Figure 2) and Point faults (Figure 1, faults 3 and 2) were reviewed to evaluate whether the faults cross the site.

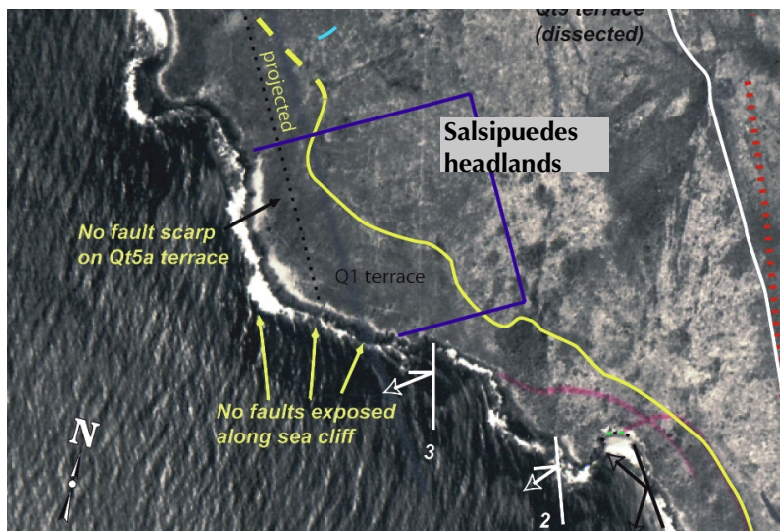


Figure 1. Aerial photograph of the site (outlined in dark blue) with paleo-shorelines denoted by yellow and white lines. Nearby faults include the Cove (1), Point (2), La Jovita (3) and the projected Baja Mar fault (dotted line).

## SOLUTION

An 850-meter long trench was excavated across the site exposing marine terrace deposits overlying Miocene volcanic rock (Figure 3). The excavation exposed the Point fault at the eastern end of the site and several minor faults on the western side, but the La Jovita fault was not observed. The overlying marine terrace was not offset by any of these faults. Our assessment of the marine terrace ages indicate that these faults have been inactive in the past 80,000 years, although they probably were active earlier in the Quaternary. The primary geologic hazard is the possibility of strong seismic shaking from the nearby Agua Blanca - Descanso fault zone. Rupture of one of the faults associated with uplift of the Salsipuedes headlands (e.g., Baja Mar fault) is also possible, although not as likely, due to their low slip rates.



Figure 2. Sea cliff exposure of the La Jovita fault.



Figure 3. Fault trench exposing marine terrace (boulders) overlying basalt.

