

**October Meeting Poster Presentation
Sunshine Mansfield**

Geology of Punta Gorda, California

ABSTRACT

My study focuses on the Cooskie Shear zone, the contact between King Peak subterrane and Coastal terrane, exposed along the beach south of Punta Gorda. The purpose of this research was to determine if the contact is depositional and later faulted or a fault contact, as proposed by McLaughlin (1994). The field site is located in the Mendocino triple junction region on the "Lost Coast", a place known for isolation and rugged terrain. Active landslides dominate the landscape and winter storm waves erode the coastline. The King Peak subterrane is weaker and less resistant to erosion and overlies more massive and cemented Coastal terrane.

The King Peak subterrane may be subdivided into two structural domains in the mapping area. The region of the terrane at the contact is described as mélangé. The mélangé is characterized by disruption and fragmentation of turbidite beds in a scaly matrix composed of foliated argillite. Intrafolial folds are incoherent, warped, and dependent of incompetent matrix. The mélangé matrix is weak and easily erodes; mélangé underlies bedding and forms slump features on the hill sides. The contact between the Coastal terrane and King Peak subterrane is obscured by landsliding over the Coastal terrane. A fault separates folded and fractured turbidites from the mélangé. Fold shapes are asymmetric, slightly kinked and overturned with tight inner limb angles. Fold vergence is NNE and folds plunge gently ESE. Some folds have been refolded and appear disharmonic.

One of the structural challenges of interpreting the origin of Franciscan Complex melange is determining if pervasive extensional deformation occurred during early formation of the subduction complex or happened during a later tectonic event. Evidence suggests there has been pervasive layer parallel extension within the terranes. Mechanisms for layer parallel extension can occur within the accretionary prism toe by gravitational spreading and burial of sediments in an unconfined environment. The contact may be unconformable with a later component of simple shear obscuring original structural relations.