

Merguerian, Charles, 1983c, Structural geology of the Calaveras-Shoo Fly Thrust (CSFT), Tuolumne and Mariposa counties, California.

The CSFT is a folded syn-metamorphic ductile shear zone that separates contrasting Paleozoic lithofacies in the western metamorphic belt of the Sierra Nevada. Traced for over 90 km from lat. 38°15'N to 37°30'N, it juxtaposes lower plate oceanic rocks of the Calaveras Complex in the west with foliated upper plate miogeosynclinal and granitoid metaplutonic rocks of the Shoo Fly Complex in the east. Orthogonal structural and stratigraphic truncation of the Shoo Fly against a 1-2 km zone of mylonite and intersheaved lithologies, was coeval with intense flattening and silicification of the Calaveras. A remarkable along-strike consistency of textures in the CSFT zone include 1) megascopic isoclinal, shear, and rootless folds with axial planar mica recrystallization, spaced ductile shears, layer-parallel imbrication, and transposition, 2) flattened ellipsoidal slivers with extreme elongation parallel to stretching lineations in sheathing mylonitic envelopes, 3) lithically sensitive formation of zones, seams, and injections of blastomylonite, mylonite, ultramylonite, protocataclasite, pseudotachylyte, and late-syn-tectonic granitoid sills, 4) microscopic development of a porphyroclastic flow foliation composed of strained quartz-foliation with internal sutures and core and mantle structure, rounded feldspar augen with marginal granulation, bent twins, corrosion and cracking with replacement by muscovite, 5) mylonitic layering defined by highly strained and polygonized ribboned quartz with marked grain-size variations between layers, and 6) highly laminated phyllonitic textures in schistose rocks with frayed mica augen and anastomosing folia of smaller recrystallized micas and quartzose ribbons. Available data suggest that the CSFT, a major east-dipping ductile shear zone, formed in response to high strain under lower amphibolite grade conditions during pre-Middle Jurassic time *before* the onset of the Nevadan orogeny.

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