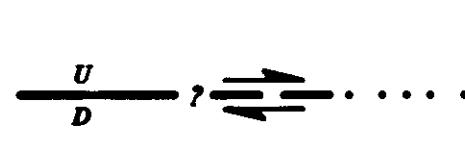


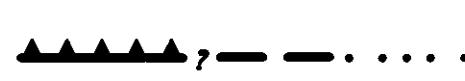


Base: U.S. Geological Survey 7.5-minute Monterey quadrangle, photorevised 1968

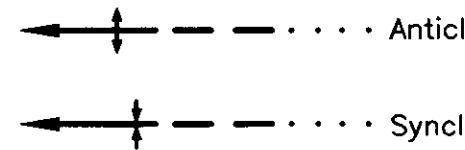
#### EXPLANATION OF MAP SYMBOLS



High-angle fault -- solid where fault is well-defined, dashed where approximately located or poorly defined, dotted where concealed, queried where questionably located. Relative vertical movement shown by U and D (U=upthrown side, D=downthrown side). Arrows indicate relative movement.



Thrust fault -- solid where fault is well-defined, dashed where approximately located or poorly defined, dotted where concealed, queried where questionably located. Saw teeth on upper plate.



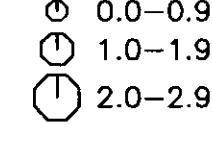
Anticline -- solid where well-defined, dashed where approximately located or poorly-defined, dotted where concealed. Arrow on axial trace indicates direction of plunge.



Syncline -- solid where well-defined, dashed where approximately located or poorly-defined, dotted where concealed. Arrow on axial trace indicates direction of plunge.



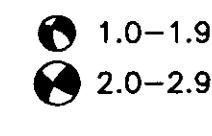
Quaternary deformation locality



Earthquake magnitude



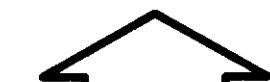
Estimated horizontal error in hypocenter location (km)



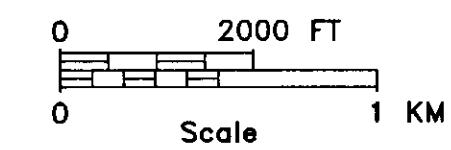
Fault plane solution from first-motion studies

#### QUATERNARY DEFORMATION LOCALITIES

1. Marine terrace offset approximately 2 m along near-vertical, 3-m-wide shear zone separating porphyritic granodiorite from Carmelo Formation sandstone and shale
2. Edge of marine terrace coincides with 8-m-wide sheared fault zone (strike approximately N. 25° W., dip 55° NE.), Cypress Point fault zone; no obvious offset of terrace deposits (Dupré, 1990b)
3. Edge of fluvial terrace coincides with near-vertical fault zone in the Monterey Formation, trending N. 15°–20° W. (Dupré, 1990b)
4. Marine terrace deposits down-dropped along 32-m-wide near-vertical fault zone that strikes N. 10° W. (extension of fault at locality 3); sheared and contorted Monterey Formation is incorporated in terrace deposits
5. Possibly faulted terrace gravel (Dupré, 1990b)
6. Monterey Formation, terrace deposits, and colluvium thrust faulted in Sylvan thrust zone (see Figure 4). Colluvium offset at least 1 m ( $^{14}\text{C}$  age of colluvium:  $4,890 \pm 90$  years B.P.); fault strikes N. 65° E., dips 38° SE.
7. Marine terrace deposits offset by Sylvan thrust fault with estimated throw of 10–15 m (Dupré, 1990)
8. Folded marine terrace deposits or possible soft-sediment deformation (near mapped extension of Sylvan thrust fault, see Figure 5)
9. Marine terrace deposits strike approximately north, dip steeply (along western extension of Sylvan thrust fault, see Figure 6)
10. Possible fault in marine(?) terrace deposit; sheared zone within deposits strikes N. 45° W., dips 60° NE. (Dupré, 1990b)
11. Gently folded fluvial terrace deposits above mapped trace of Hatton Canyon fault zone cut by near-vertical clay-filled fractures that strike approximately N. 60° E.
12. Fluvial terrace deposits faulted against steeply dipping Monterey Formation (see Figure 10). As much as 1 m vertical offset of landslide deposits and colluvium ( $^{14}\text{C}$  age of colluvium:  $2,080 \pm 40$  years B.P.); fault zone strikes east-west, dips 74° SE.
13. Marine terrace deposit tilted approximately 13° NE.



NORTH



Scale

Contour Interval = 20 Ft

Research supported by the U.S. Geological Survey (USGS) Department of the Interior, under USGS contract number 1434-94-G-2443 to Staal, Gardner & Dunne, Inc. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

#### FAULTS AND EPICENTERS: MONTEREY 7.5-MINUTE QUADRANGLE

For: QUATERNARY FAULTING OF THE GREATER MONTEREY AREA, CALIF.

94-71-0230 December 1994

PLATE 2

**STAAL, GARDNER & DUNNE, INC.**

Geotechnical  
Hydrogeological  
& Environmental  
Consultants