State of California

The Resources Agency

Memorandum

To : Earl Hart
Senior Geologist
SAN FRANCISCO OFFICE

Date: May 24, 1983

From : **Department of Conservation**
Division of Mines and Geology
2815 O Street, Sacramento 95816

Subject: Field Check of Cordelia fault zone--Supplement No. 1 to FER-127

At your request, I field-checked segments of the Cordelia fault zone on May 20, 1983. R. Boylan accompanied me in the field. Specific points of observation are noted on figure 1 and briefly described in the attached summary of observations.

In summary, I did not observe geomorphic evidence supporting a recently active strike-slip fault. Two additional exposures of the fault were observed (see observations 2 and 13). A 30 cm-thick colluvial unit overlies faulted bedrock (welded tuff of the Mio-Pliocene Sonoma Volcanics) at these locations, and the soil profile is poorly developed. Although the fault does not seem to offset the colluvium, it would be very difficult for evidence of shearing to be preserved in actively creeping colluvium.

William A. Bryant

William A. Bryant
Associate Geologist

WAB:clp

Attachment 1

cc: J. Davis

I have reviewed the aerial photos and agree that there is no evidence to indicate that the Cordelia fault is Holocene active north of Highway I-80. The recommendations not to zone this segment of the fault appear to be fully justified (see FER-127)

Earl W. Hart
5/25/83

Supplement No 1 to FER-127

Cordelia fault zone

Summary of field observations by W.A. Bryant, May 20, 1983

1.* No scarp associated with tonal (poorly defined 5-20-83).

2. Fault exposed in canal excavation. Fault zone about 10-15 m wide, strikes about N02°E, dips of shears essentially vertical. Soil development extremely poor over Sonoma Volcanics--mostly colluvium that is active. No apparent offsets of soil or colluvium, but difficult to tell.

3. No evidence of a fault in canal exposure.

4. Evidence of faulting characterized by rocky outcrops of Sonoma Volcanics (welded tuff) to the east and less resistent rocks with sparse outcrops to the west. No geomorphic evidence such as sidehill bench or scarp.

5. Ridge not offset.

6. Broad scarp, no geomorphic evidence of recent faulting such as sidehill bench, trough, or scarplet. Small drainages not offset.

7. Trough is fairly well-defined, and southerly ridge deflected, but in left-lateral sense. Drainage to the south is not offset.

8. Ridge is deflected (in left-lateral sense) to form trough, but no evidence of a saddle, depression, or scarp.

9. Linear drainage is sinuous in detail.

10. Ridge not offset.

11. Drainages not offset.

12. Ridges not offset.

13. Fault exposure; fault zone about 10 m wide; fault strikes N-S, dips essentially vertical. About 30 cm-thick colluvium overlies Sonoma Volcanics (welded tuff). No evidence of offset soil or colluvium observed, but evidence of offset would be difficult to see in this material.

14. Fault exposed in Rockville Road roadcut. General N-S trend of fault zone. Very thin (2 to 3 cm thick) soil formed over Sonoma Volcanics on north side of road. No evidence of offset soil or colluvium (see FER-127 for further details of this roadcut).

15. Trough not on trend with fault exposed in roadcut. Trough, which is sinuous in detail and coincides with a drainage, abruptly turns to the west. No geomorphic evidence of faulting (bench, saddle, depression) on east-west trending ridge. No evidence of faulting observed in roadcut exposure of southern projection of the trough. Trough is located about 25 m west of the fault zone exposed in roadcut.

* Refer to figure 1 for location of observations.