

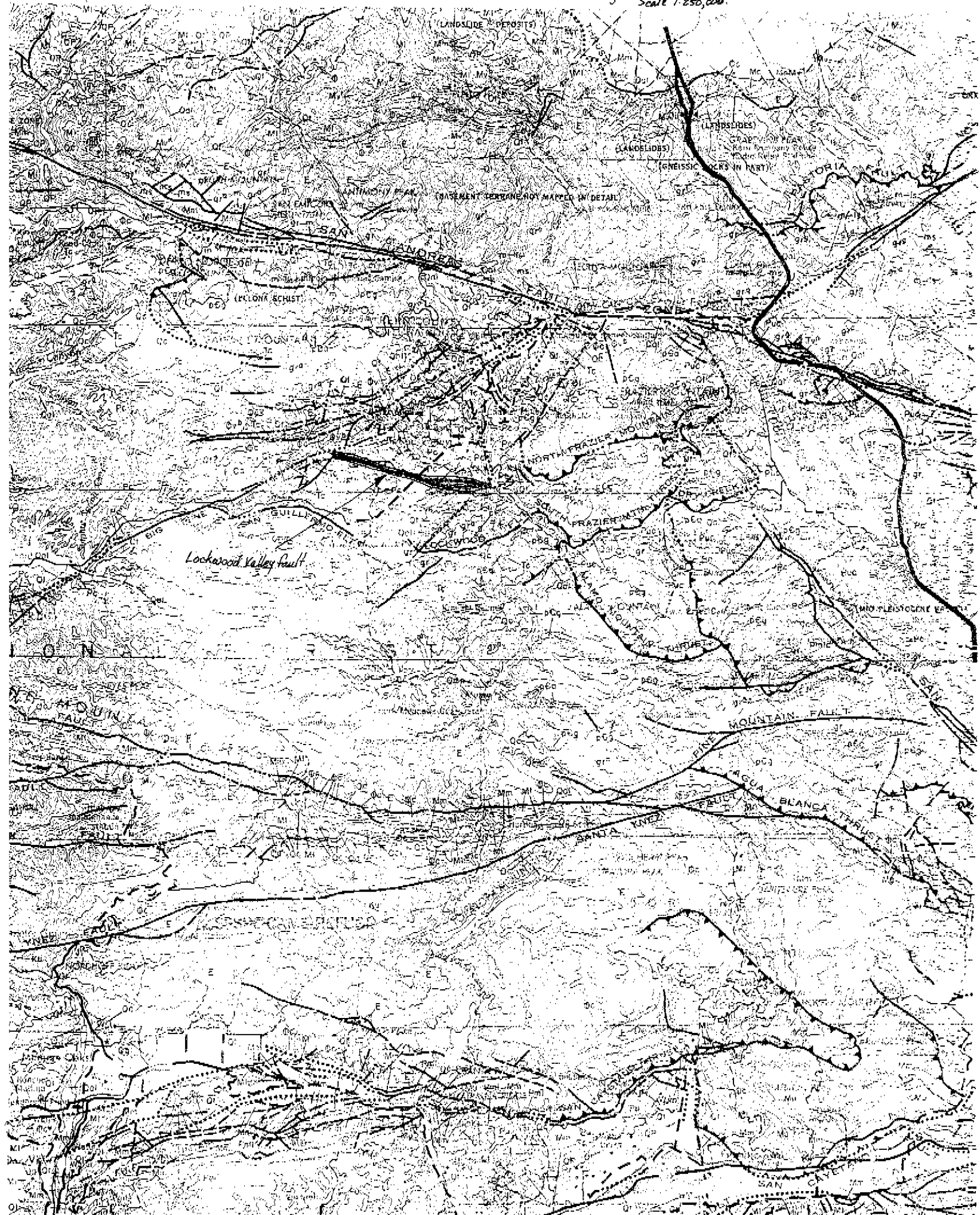
CALIFORNIA DIVISION OF MINES AND GEOLOGY

Fault Evaluation Report FER-20

December 28, 1976

1. Name of faults: Lockwood Valley fault
2. Location of faults: Lockwood Valley and San Guillermo 7.5' quadrangles, Ventura County.
3. Reason for evaluation: Part of 10-year program; zoned in the Ventura County Seismic and Safety Element (Nichols, 1974).
4. List of references:
 - a) Carman, M.F., Jr., 1964, Geology of the Lockwood Valley area: California Division of Mines and Geology Special Report 81, 62 p., 4 plates (scale 1" = 875').
 - b) Jennings, C.W., 1975, Fault map of California with locations of volcanoes, thermal springs, and thermal wells: California Division of Mines and Geology, California Geologic Data Map Series, Map no. 1, scale 1:750,000.
 - c) Jennings, C.W., and Strand, R.G., 1969, Geologic map of California, Los Angeles sheet: California Division of Mines and Geology, scale 1:250,000.
 - d) Nichols, D.R., 1974, Surface Faulting in Seismic and Safety Elements of the Resources Plan and Program: Ventura County Planning Department, Section II, p. 1-35, plate 1.
 - e) Weber, F.H., Jr., Kiessling, E.W., Sprotte, E.C., Johnson, J.A., Sierburne, R.W., and Cleveland, G.B., 1975 (Preliminary draft of 2/27/76), Seismic hazards study of Ventura County, California: California Division of Mines and Geology, Open File Report 76-5 LA, 396 p., 9 plates.

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Figure 1. From Jennings and Strand (1969).
Scale 1:250,000.



5. Summary of available data: The Lockwood Valley fault is zoned as a secondary fault hazard in the Ventura County Seismic and Safety Element (Nichols, 1974, after Jennings and Strand, 1969). Essentially, all the faults shown by Jennings and Strand were zoned in the element, apparently without consideration as to recency of activity. I assume that no attempt was made by Nichols to determine which faults were active, recently active, or inactive -- hence, all were zoned in the element.

The west-~~west~~ trending Lockwood Valley fault was first mapped by Carmen (1964). Carmen noted (p. 50) "This fault, buried under the alluvium, is postulated on the grounds that juxtaposed sections do not match in structure or lithology. Direct evidence, interpreted as due to this fault, ^sif found along Lockwood Creek, where beds are steepened and overturned." Carmen postulates 150 to 300 feet of vertical displacement, north side up and an undetermined amount of right-lateral offset; however, he notes some evidence for ^{a possible left} 6 ft. _l-lateral offset near Lockwood Creek.

All later work (Jennings and Strand, 1969; Jennings, 1975; Nichols, 1974; and Weber, et al., 1975) utilized Carmen's data. Jennings (1975) depicts the fault as pre-Quaternary. Weber, et al. (1975, pl. 6) notes that the youngest unit cut by the Lockwood Valley fault is Pliocene in age (Quatal Formation). Weber, et al. (p. 178) also states that the probable age of latest movement is Pliocene or younger.

6. Interpretation of air photos: U.S. Department of Agriculture aerial photographs flight 9K, numbers 58 through 60 and flight 7K,

numbers 93 and 94, scale 1:24,000, flown in 1953, were viewed stereox^{scopically}
~~optically~~. No features common to recently active faulting were noted.

7. Field observations: Time did not permit detailed field observations to be made along the Lockwood Valley fault. However, on June 3, 1976 I drove along Lockwood Valley Road, which parallels the buried trace of the fault in the vicinity of Plush Ranch. No evidence of recent faulting was readily apparent.

8. Conclusions: Neither the literature, nor the aerial photographs; nor the limited field reconnaissance data indicated any evidence of Quaternary activity. Thus, for the purposes of this project, the Lockwood Valley fault cannot be considered active.

9. Recommendations: The Lockwood Valley fault should not be zoned at this time.

10. Investigating geologist's name; date:

Theodore C. Smith
THEODORE C. SMITH
Assistant Geologist
December 28, 1976

*I concur with
recommendation.
EWA
1/10/77*

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 Figure 2. From Carmen, 1964, showing areas
 field checked by Smith.

