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UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT **82-579**

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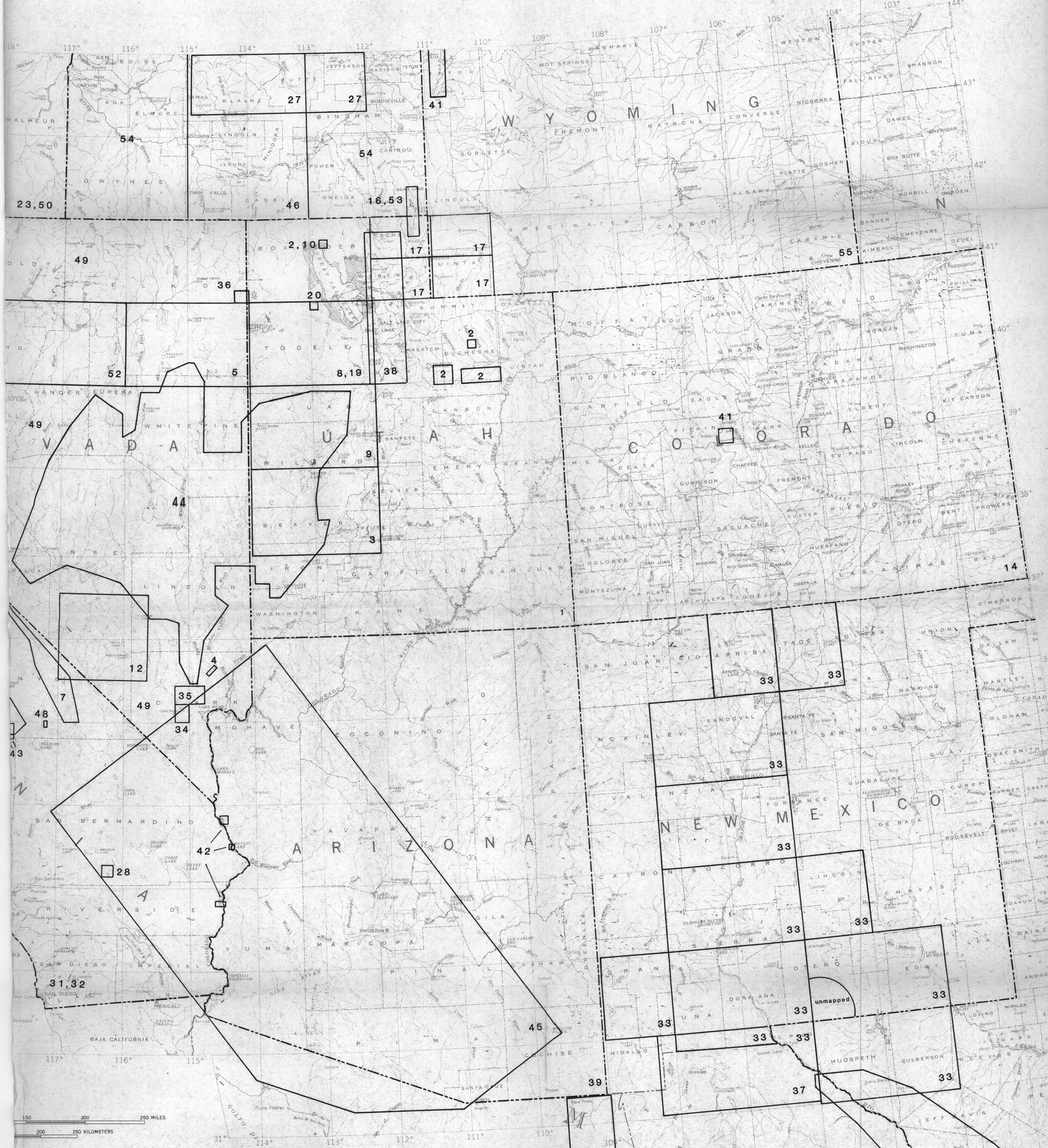

...Y FAULT MAPS OF THE BASIN AND RANGE ...RIFT PROVINCES, WESTERN UNITED STATES

COMPILED BY

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1982

SOURCES OF DATA

1. Anderson, L. W., and Miller, D. G., 1979, Quaternary fault map of Utah: Fugro Inc., Long Beach, California, 355p.

   Faults shown range in age from Holocene to suspected Quaternary.

2. Anderson, L. W., Nelson, A. R., and Sullivan, T., U.S. Bureau of Reclamation, written commun., 1981.

3. Anderson, R. E., and Buckman, R. C., 1979, Map of fault scarps in unconsolidated sediments, Richfield 1° by 2° quadrangle, Utah: U.S. Geological Survey Open-File Report 79-1236.

4. Anderson, R. E., written commun., 1982.

5. Barnhard, T. P., Map showing Quaternary faults in the Elko 1° by 2° quadrangle Nevada, written commun., 1982.

6. Bell, J. W., 1981, Quaternary fault map of the Reno 1° by 2° quadrangle, Nevada: U.S. Geological Survey Open-File Report 81-982.

7. Brogan, G. E., and Carr, W. J. Death Valley-Furnace Creek Fault zone, written commun., 1981.

   Brogans designation of faults are complex and were generalized as Quaternary faults by W. J. Carr, (written commun., 1981); faults labeled as late Quaternary are from Howard and others, 1978 (31).

8. Bucknam, R. C., 1977, Map of suspected fault scarps on unconsolidated deposits, Tooele 1° by 2° quadrangle, Utah: U.S. Geological Survey Open-File Report 77-495.

9. Bucknam, R. C., and Anderson, R. E., 1979, Map of fault scarps on unconsolidated sediments, Delta 1° by 2° quadrangle, Utah: U.S. Geological Survey Open-File Report 79-366; used for faults in the House Range.

10. Bucknam, R. C., written commun. 1982 and Summaries of Technical Reports, v. VIII, National Earthquake Hazards Reduction Program, June, 1979: U.S. Geological Survey. Figure 1A used for ages of faults in Hansel Valley, Utah.

11. ________ Geologic reconnaissance map, Rattlesnake Flat area, Mineral County, Nevada, written commun., 1982.

12. Carr, W. J., Map of Quaternary faulting in the Nevada Test Site area, written commun., 1981.

    Some Quaternary faults may be Pliocene in age.

13. Clark, M. M., and Yount, J. C., 1981, Surface faulting along the Hilton Creek fault associated with the Mammoth Lake, California, earthquakes of May, 1980: U.S. Geological Survey Miscellaneous Field Studies Map MF-1396.

14. Colman, S. M., 1982, Map showing late Cenozoic tectonic features in Colorado; U.S. Geological Survey Miscellaneous Geologic Investigation Map, (I-_____) in press.

15. Cox, B. F., and Von Huene, R. E., 1981, Oral and written commun., 1981.

    Assigned suspected Quaternary age (?) to a segment of the Sierra Fault.

16. Crone, A. J., written commun., 1982.

    Extended the Bear Lake Valley fault northward and assigned a Holocene age to its entire length; see Williams, J. S. and others, (53).

17. Dickey, D. D., and Gibbions, A. B., written commun., 1981.

    Faults were mapped adjacent to the Idaho/Utah and Utah/Wyoming border in the Kemmerer, Evanston, Ogden, and Logan 30' by 60' quadrangles. Based on Dickey (oral commun., 1981), their "certain or almost certain fault" category is placed in our Quaternary classification whereas their "probable active and possible active fault" is classed as a suspected Quaternary fault.

18. Dodge, R. L., and Gross, L. T., 1980, Tectonic and geomorphic evolution of the Black Rock Fault, northwestern Nevada: in Anderson, R. E., Ryall, A., Smith, R. S., Evernden, J. F., Andriese, P. D., eds., Earthquake hazards along the Wasatch-Sierra Nevada frontal fault zones: U.S. Geological Survey Open-File Report 80-801, p. 494-508 and Dodge, R. L., written commun., 1982.

19. Dodge, R. L., Bucknam, R. C., and Barnhard, T. P., 1982, Map of fault scarps on unconsolidated sediments, Tooele 1° by 2° degree Quadrangle, Utah; U.S. Geological Survey Open-File Report, (82-__) in press.

20. Dodge, R. L., written commun., 1982.

    Faults do not offset Lake Bonneville shoreline, therefore a late Quaternary age is assigned.

21. Dohrenwend, J. C., 1981, Late Cenozoic fault map of the Walker Lake 1° by 2° quadrangle, California and Nevada: U.S. Geological Survey Miscellaneous Field Studies Map, (MF-__) in press.

    Dohrenwend's faults classified as forming scarps in lower Quaternary and (or) upper Tertiary rocks have been generalized and reclassified as suspected Quaternary faults.

22. Duffield, W. A., and Bacon, C. R., 1981, Geologic map of the Coso volcanic field and adjacent areas, Inyo County, California: U.S. Geological Survey Miscellaneous Geologic Investigation Map, I-1200; used to assign Pliocene age to faults south of Owens Lake and east of Haiwee Reservoir which were shown as Quaternary on Jennings 1975 map (32).

23. Gower, H. D., written commun.; as used for Oregon in Howard, K. A. and others, 1978 (31).

24. Gross, L. T., written commun., 1979.

    New data and reclassification of ages for faults north of Pyramid Lake, Nevada.

25. Gross, L. T., 1981, Bean, S. M., Roberts, C. T., Tuppan, E. J., and Youngkin, M. T., Southeastern Cascades geothermal project, northeastern California: Final Report to U.S. Geological Survey on Grant #14-08-001-Cr-624.

26. Hedel, C. W., 1980, Late Quaternary Faulting in Western Sunrise Valley, Modoc County, California: San Jose State University, California, unpublished Masters thesis, 113p.

27. Hait, M. H., Jr., Map showing post-Eocene and younger faults in the Basin and Range area of east-central Idaho and southwest Montana, written commun., 1981.

28. Hill, R. L., Pechmann, J. C., Treiman, J. A., McMillan, J. R., Given, J. W., Ebel, J. E., 1980, Geologic study of the Homestead Valley earthquake Swarm of March 15, 1979: California Geology, v. 33, no. 3, p. 60-67.

29. Henry, C. D., 1979, Geologic setting and geochemistry of thermal water and geothermal assessment, Trans-Pecos Texas: Texas Bureau of Economic Geology Report of Investigation 96, and Written commun., 1981.

30. Herd, D. G., and McMasters, C. R., 1982, Map of surface faulting in the Sonoran earthquake of 1887: U.S. Geological Survey Miscellaneous Field Studies Map (MF-___) in press.

31. Howard, K. A., Aaron, J. M., Brabb, E. E., Brock, M. R., Gower, H. D., Hunt, S. J., Milton, D. J., Muehlberger, W. R., Nakata, J. K., Plafker, George, Prowell, D. C., Wallace, R. E., and Witkind, I. J., 1978, Preliminary map of young faults in the United States as a guide to possible fault activity: U.S. Geological Survey Miscellaneous Field Studies Map MF-916; used for fault ages in California and historic faults in Baja California.

32. Jennings, C. W., 1975, Fault map of California with locations of volcanoes, thermal springs and thermal wells, 1:750,000: California Division of Mines and Geology; used for fault traces in California.

33. Machette, M. N., unpublished maps of Aztec, Raton, Albuquerque, Socorro, Tularosa, Roswell, Las Cruces, Silver City, Carlsbad 1° by 2° quadrangles (New Mexico), and El Paso and Van Horn 1° by 2° quadrangles (Texas).

34. Matti, J. C., and Bachhuber, F. W., 1982, Geologic map of the Las Vegas SW quadrangle: Nevada Bureau of Mines and Geology Open-File Report 82-6.

35. Matti, J. C., and Morton, D. M., 1982, Geologic maps of the Las Vegas NW and Las Vegas NE quadrangles: Nevada Bureau of Mines and Geology Open-File Reports 82-4 and 82-5.

36. Miller, D. M., and Lush, A. P., 1981, Geologic map of the Pilot Peak and adjacent quadrangles, Elko County, Nevada and Box Elder County, Utah: U.S. Geological Survey Open-File Report 81-658, and oral commun., 1982.

37. Morrison, R. B., 1969, Photointerpretive mapping from space photographs of Quaternary geomorphic features and soil associations in northern Chihuahua, Mexico and adjoining New Mexico and Texas, in Cordoba, D. A., Wengerd, S. A., and Shomaker, John eds.; Border Region, Mexico and the United States: New Mexico Geological Society Guidebook, 20th Feild Conference, 1969, and written commun., 1981.

38. Morrison, R. B., written commun., 1981, used for additional fault traces to supplement Anderson and Miller, 1979 (1).

39. Morrison, R. B., Menges, C. M., and Lepley, L. K., 1981, Young fault map of Arizona: Contract report for the U.S. Geological Survey #14-08-0001-18285; faults and ages modified by Menges, C.M., written commun., 1981.

40. Muehlberger W. R., written commun., 1981, concerning the late Quaternary fault along the Rio Grande in Precidio County, Texas, and Quaternary faults in the Taos 1° by 2° quadrangle, New Mexico.

41. Ostenna, D. A., written commun., 1981, concerning faults near Jackson, Wyoming and in the Upper Arkansas Valley, Colorado.

42. Purcell, C., and Miller, D. G., 1980, Grabens along the lower Colorado River, California and Arizona; in Fife, D. L., and Brown, A.R., eds.: Geology and mineral wealth of the California Desert: Southcoast Geological Society, California Dibblee Volume, 555p.

43. Roquemore, G. R., 1981, Active faults and associated tectonic stress in the Coso Range, California: Reno, University of Nevada, unpublished Ph.D. thesis, 134p.

44. Schell, B. A., Muir, S. G., and Farley, T., 1981, Quaternary faults in east-central Nevada and west-central Utah: Association of Engineering Geologists 24th Annual Meeting Program with Abstracts, and Schell, B. A., written commun., 1981.

45. Schell, B. A., Wilson, K. L., Christenson, G. E., and Scott, S. L., 1981, Regional neotectonic analysis of the Sonoran desert; Fugro, Inc., Long Beach, California: U.S. Geological Survey Open-File Report 81-122; used for the late Quaternary fault near Sonoyota, Sonora, Mexico and the Blythe and Chemehuevi Grabens, California.

46. Scott, W. E., 1981, Surficial Geologic map of the Eastern Snake River Plain, Idaho and Wyoming, Sheet 1 of 2: U.S. Geological Survey Open-File Report 81-507.

47. Smith, J. G., Geologic map of the Medford 1° by 2° quadrangle, Oregon and California, written commun., 1981 to Paul Thenhaus.

48. Smith, R. S. U., 1979, Holocene offset and seismicity along the Panamint Valley fault zone, Western Basin-and-Range Province, California: Tectonphysics, v. 52, p. 411-415.

49. Stewart, J. H., 1980, Geology of Nevada: Nevada Bureau of Mines and Geology, Special Publication 4, p. 136; written commun., 1982, for age assignments.

50. Walker, G. W., 1977, Geologic map of Oregon east of the 121st Meridian: U.S. Geological Survey Miscellaneous Geologic Investigation Map I-902.

51. Walker, G. W., Nolf, B., 1981, High lava plains, Brothers fault zone to Harney Basin, Oregon: in Johnston, D.A. and Donnelly-Nolan, J., eds., Guides to some volcanic terranes in Washington, Idaho, Oregon and northern California; U.S. Geological Survey Circular 838, and Walker, G. W., written commun., 1982.

52. Wallace, R. E., 1979, Map of young fault scarps related to earthquakes in north-central Nevada: U.S. Geological Survey Open-File Report 79-1544, and written commun., 1981.

    All historic, Holocene, and late Quaternary faults from Wallace, Quaternary faults from Stewart, 1980, (49).

53. Williams, J. S., Willard, A. D., and Parker, V., 1962, Recent history of Bear Lake Valley, Utah-Idaho: American Journal of Science, v. 260, p.24-36.

54. Witkind, I. J., 1975, Preliminary map showing known and suspected active faults in Idaho: U.S. Geological Survey Open-File Report 75-278.

55. ______ 1975, Preliminary map showing known and suspected active faults in Wyoming: U.S. Geological Survey Open-File Report 75-279.

ACKNOWLEDGEMENTS

We would like to express our gratitude to the contributors who furnished information for this map. In addition, a special thanks to our colleagues Robert Wallace and Meridee Jones-Cesil for their interest and helpful comments in this compilation.

We would like to elicit comments, invite all updates and new sources for a 1983-84 revision.

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