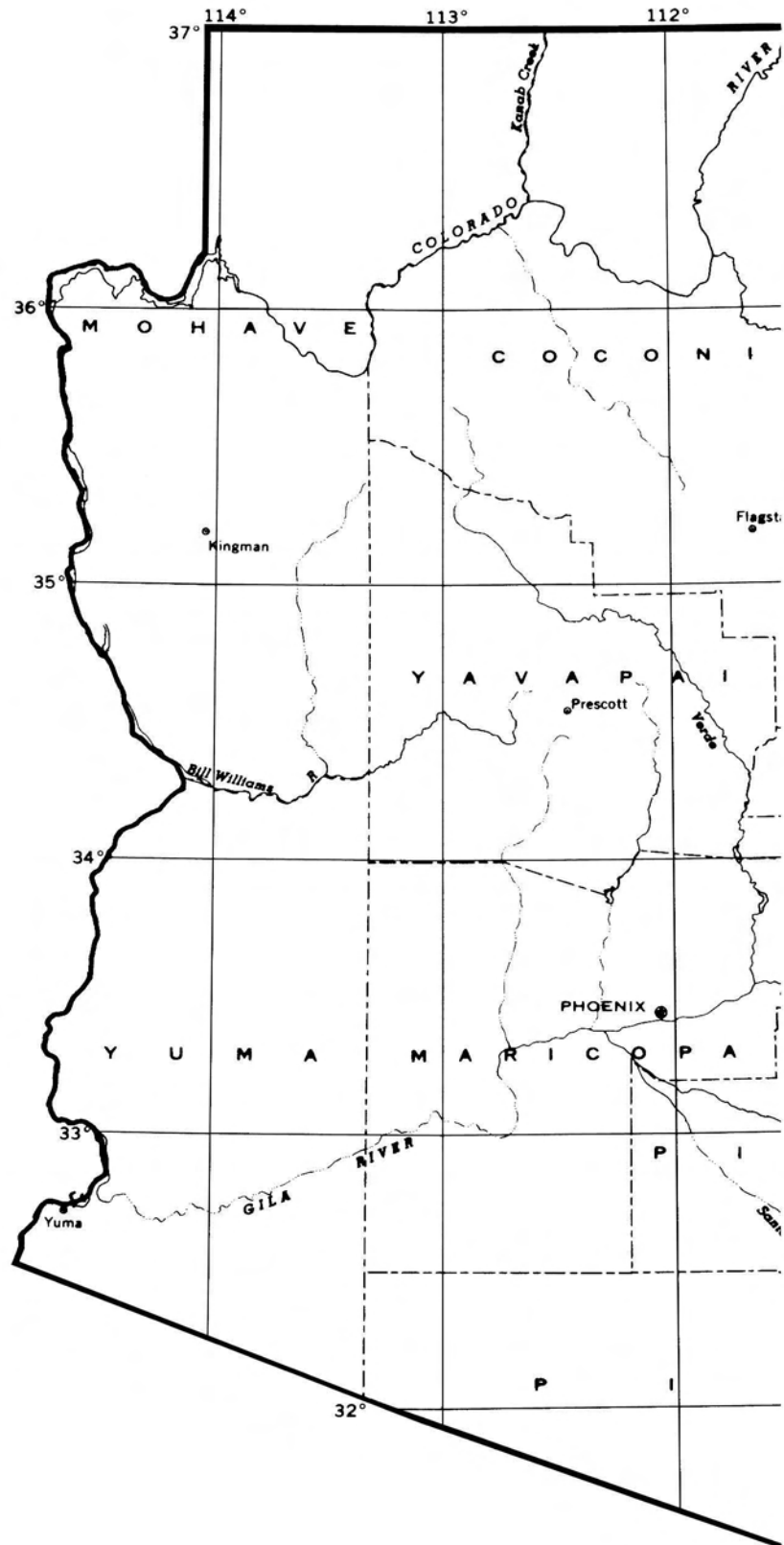


STUDIES IN WESTERN ARIZONA

Edited by
Judith P. Jenney
and
Claudia Stone



ARIZONA GEOLOGICAL SOCIETY DIGEST VOLUME XII

Tucson, Arizona

May, 1980

ARIZONA GEOLOGICAL SOCIETY

Officers for 1979-80

Anne Kramer Loring	President
Tom L. Heidrick	First Vice President
Norman E. Lehman	Second Vice President
W. Richard Hahman, Sr.	Secretary
Richard J. Lundin	Vice Secretary
Steven C. Potter	Treasurer
Lawrence D. Fellows	Vice Treasurer

Councilors

Peter G. Dunn	1979-82
Edgar J. McCullough	1977-80
Jan C. Wilt	1977-80
John E. Kinnison	1978-81
Sal A. Anzalone	1978-81
Peter J. Coney	1979-82
William D. Payne	1979-82

Co-editors, Volume XII Digest

Judith P. Jenney

Claudia Stone

Information for Contributors to the Digest

The Digest is issued periodically by the Society as an informal bulletin intended to present technical papers and progress reports of research bearing on geological problems of Arizona in particular and the Southwest generally. The editors welcome such papers as well as notes and news of geological and related activities within this broad framework.

Manuscripts submitted for publication should meet the following requirements:

1. Manuscripts must be typewritten and double spaced throughout (including abstracts, quotations, and list of references cited).
2. Information on Digest style can be obtained from the editors.
3. Abstracts, not exceeding 300 words, are required for all articles.
4. Drafted illustrations should be carefully prepared in waterproof black ink on drafting stock or Mylar. Lettering should be done with lettering guides or marchines. Size of illustration and lettering and especially patterns should permit reduction to Digest format. Consultation with the editors is invited to determine current format. Illustration titles should be typed on a separate sheet of paper and not lettered on the illustration.
5. Photographs should be sharp, glossy, black-and-white prints and kept to a minimum.
6. The original and one copy of the manuscript, including illustrations, should be submitted. Manuscripts and inquiries may be addressed to:

Digest Editor
Arizona Geological Society
P. O. Box 40952
Tucson, Arizona 85719

CONTENTS

Geologic framework of west-central Arizona, <i>Stephen J. Reynolds</i>	1
Reconnaissance geology of the Mesozoic and lower Cenozoic rocks of the southern Papago Indian Reservation, Arizona: A preliminary report, <i>Gordon Haxel, James E. Wright, Daniel J. May, and Richard M. Tosdal</i>	17
A merging of aeromagnetic data sets in southwest Arizona and northwest Mexico and analysis of the results, <i>Carlos L. V. Aiken, Richard H. Wetterauer, and Mauricio F. de la Fuente</i>	31
Stacked overthrusts of Precambrian crystalline basement and inverted Paleozoic sections emplaced over Mesozoic strata, west-central Arizona, <i>Stephen J. Reynolds, Stanley B. Keith, and Peter J. Coney</i>	45
Hillslope processes in southwestern Arizona, <i>Steven Cordivola</i>	53
Tectonic geomorphology of the Luke Air Force Range, Arizona, <i>William C. Tucker, Jr.</i>	63
Geochronology, geology, and listric normal faulting of the Vulture Mountains, Maricopa County, Arizona, <i>W. A. Rehrig, M. Shafiqullah, and P. E. Damon</i>	89
The geology of the Aguila Mountains quadrangle, Yuma, Maricopa, and Pima Counties, Arizona, <i>William C. Tucker, Jr.</i>	111
A preliminary study of Mesozoic geology in the southern Dome Rock Mountains, southwestern Arizona, <i>Stephen Marshak</i>	123
Petrology and tectonic setting of the Livingston Hills Formation, Yuma County, Arizona, <i>Lucy E. Harding</i>	135
Description and analysis of Mesozoic "red beds," western Arizona and southeastern California, <i>Brad A. Robison</i>	147
Precambrian geology and massive sulfide environments of the west-central Hualapai Mountains, Mohave County, Arizona - A preliminary report, <i>Howard L. Stensrud and Syver More</i>	155
A structural interpretation of a portion of the Big Bug Group near Mayer, Arizona, <i>James M. Evensen</i>	167
The Muddy Creek Formation at Colorado River in Grand Wash: The dilemma of the immovable object, <i>Earl M. P. Lovejoy</i>	177
A unique chloritoid - staurolite schist from near Squaw Peak, Phoenix, Arizona, <i>Douglas G. Thorpe and Donald M. Burt</i>	193
K-Ar geochronology and geologic history of southwestern Arizona and adjacent areas, <i>M. Shafiqullah, P. E. Damon, D. J. Lynch, S. J. Reynolds, W. A. Rehrig, and R. H. Raymond</i>	201
Thesis and dissertation index of Arizona geology to December 1979: University of Arizona, Arizona State University, and Northern Arizona University, (compiled by) <i>Gregory R. Wessel</i>	261
Geologic road logs, 1979 Arizona Geological Society spring field trip: Tucson-Yuma-Quartzsite-Buckeye, <i>Peter H. Dohms, Peter G. Dunn, Lucy E. Harding, Richard J. Lundin, Daniel J. Lynch, Stephen J. Reynolds, and John E. Teet</i>	290
Business and professional directory	v