

ARIZONA GEOLOGICAL SOCIETY

DIGEST

VOLUME VI

TUCSON, ARIZONA

NOVEMBER, 1963

ARIZONA GEOLOGICAL SOCIETY

OFFICERS for 1963-64

| | |
|---|----------------|
| Thomas W. Mitcham, University of Arizona | President |
| John Journeay, Pima Mining Company | Vice President |
| M. E. Cooley, U.S. Geological Survey | Secretary |
| Samuel I. Bowditch, American Smelting & Refining Company .. | Treasurer |

COUNCILORS

| | |
|--------------------|------------------------|
| John L. Splane | Consultant |
| Frank D. MacKenzie | Banner Mining Company |
| Phillip W. Johnson | U.S. Geological Survey |
| John W. Anthony | University of Arizona |
| Richard E. Cribbs | Consultant |
| G. Arthur Barber | The Anaconda Company |

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 editor welcomes such papers as well as notes and news of geological and related activities within this broad framework.

St. Ives Gray, Editor
Tucson, Arizona

CONTENTS

| | Page |
|--|------|
| Cretaceous and Tertiary ore deposition in Arizona. By ELDRED D. WILSON and RICHARD T. MOORE | 1 |
| The Mogollon Highlands—their influence on Mesozoic and Cenozoic erosion and sedimentation. By M. E. COOLEY and E. S. DAVIDSON | 7 |
| Texas ammonites in Arizona? By HALSEY W. MILLER, Jr. | 37 |
| Geological interpretation of the Palo Verde mine based upon diamond drill core. By F. D. MACKENZIE | 41 |
| A reinterpretation of the anticlinal structure exposed in the north- west face of Pusch Ridge, Santa Catalina Mountains, Arizona. By E. F. PASHLEY, Jr. | 49 |
| Geophysics in ground-water studies in the Southwest. By WALTER E. HEINRICHS, Jr., and FRANKLIN A. SEWARD, Jr. | 55 |
| Volcanic orogeny of the Tucson Mountains (a preliminary report). By EVANS B. MAYO | 61 |
| Origin of the Cat Mountain Rhyolite. By MICHAEL BIKERMAN | 83 |
| Paleomagnetic directions from Hawaiian lava flows, 1840-1960. By R. L. DUBOIS | 91 |