

GUIDEBOOK of the LAS CRUCES COUNTRY

Editors

WILLIAM R. SEAGER

RUSSELL E. CLEMONS

JONATHAN F. CALLENDER

NEW MEXICO GEOLOGICAL SOCIETY

Twenty-Sixth Field Conference—November 13, 14, and 15, 1975

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THE 1974-75 TRANSITION



Newly elected officers of the New Mexico Geological Society and other committee members are shown as they attended a meeting held in Albuquerque. The officers and committee members shown in the photograph are, left to right, *back row*, Mr. Jack L. Ahlen, Consulting Geologist, Roswell, Treasurer; Dr. Charles E. Chapin, New Mexico Bureau of Mines and Mineral Resources, Socorro, Past President and Publications Chairman; Mr. Robert A. Bieberman, New Mexico Bureau of Mines and Mineral Resources, Socorro, AAPG Delegate; Ms. Anne K. Loring, Geologist, Continental Oil Company, Albuquerque, Treasurer-elect; Mr. William L. Hiss, Hydrologist, U.S. Geological Survey, Albuquerque, President; Dr. Jonathan F. Callender, Department of Geology, University of New Mexico, Albuquerque, Secretary-elect; and Dr. Lee A. Woodward, Chairman, Department of Geology, University of New Mexico, General Co-Chairman, Silver Anniversary Field Conference; *front row*, Mr. Robert L. Borton, Geologist, New Mexico State Engineer Office, Santa Fe, Publicity Chairman; Dr. William E. King, Chairman, Earth Sciences Department, New Mexico State University, Las Cruces, Chairman, Las Cruces Country Field Conference; Dr. Russell E. Clemons, Earth Sciences Department, New Mexico State University, President-elect; and Mr. James E. Fassett, Geologist, U.S. Geological Survey, Farmington, Vice President-elect. Photo taken November 23, 1974 by Dick Kent Studio.

PRESIDENT'S MESSAGE

Welcome to the twenty-sixth consecutive Fall Field Conference of the New Mexico Geological Society! The pervasive Silver Anniversary spirit of 1974 did not wane. Thanks to the efforts of individuals dedicated to the betterment of the geological profession in New Mexico through the Society, the record accomplishments of last year have been surpassed. These achievements did not just happen. They were brought about by hard work and fruition of ideas by many energetic persons. Most of these are listed on the following pages under the committees.

In May, the New Mexico and Arizona Geological Societies co-sponsored a Symposium on Base Metal and Precious Metal Districts of New Mexico and Arizona in Silver City. Co-chairmen Chuck Chapin (N.M.G.S.) and Jim Sell (A.G.S.) put together a superb program attended by more than 400 geologists. They were ably assisted by Jim Robertson (Registration), Jack Cunningham (Local Arrangements), and many other members from New Mexico Bureau of Mines and Mineral Resources, Western New Mexico University, and the Arizona Geological Society. Abstracts of papers presented at the symposium, and highlights of the 1-day field trip that followed, are printed in this guidebook.

Continued efforts of the Publications and Sales Committee, under the guidance of Chuck Chapin and George Austin, have maintained guidebook sales at a record pace. Sales averaged about \$3500/month through June. This sales volume depleted the stock of some guidebooks but provided capital to reprint six guidebooks. The "sales-reprinting-sales treadmill" now appears to be going full speed and six more guidebooks will need reprinting in 1976 to keep full sets in print. The Executive and Publications-Sales Committees will be giving much consideration toward possibly letting some of the older guidebooks go "out of print" as they are duplicated wholly or in part by future conferences.

The size and quality of this guidebook would not have been possible without the support of our advertisers. A super effort by this year's Advertising Committee, guided by Stan Harrison and Bill Hiss, brought in over \$12,000 in income which

doubled last year's record high. In addition to the advertisements herein, American Smelting and Refining Co., Mobil Oil Corp., Occidental Minerals, Tucson Gas and Electric Co., and John West Engineering Co., contributed donations.

Membership in the New Mexico Geological Society now totals more than 800, an increase of about 300 over last year's record high. To Jon Callender and Anne Loring, into whose capable hands and sagacious heads fell the tasks and worries of maintaining the Society's books and financial records, I extend my thanks.

The success of any conference lies mainly with its chairman. We are fortunate this year to have Bill King at this post. His experience and consideration of detail have made this year's conference another milestone in the Society's history. Appreciation is also extended to John Hawley who spent long hours preparing the road logs. The editors wish to thank Chas. B. Hunt who prepared the sketch for the guidebook cover. All these persons deserve special thanks and congratulations on a job well done.

The foundation of the New Mexico Geological Society's continued success stands on the unceasing support of the New Mexico Bureau of Mines and Mineral Resources (Frank E. Kottowski, Director) and the U.S. Geological Survey (William E. Hale, District Chief, WRD). The directors and supervisors of these organizations, as well as those of the Geology Departments of the State Universities, State Highway Department, State Engineers Office, and many energy and mineral industry companies, have generously made available a vast store of professional, technical, and secretarial services. Sincere thanks are hereby extended to all these individuals and their staffs for their genuine interest in the welfare of the State through development of its energy and mineral resources.

On behalf of the Executive Committee and all the standing and organizing committees I hope you have a pleasant, instructive, and memorable stay in "Las Cruces Country."

Russell E. Clemons

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1. San Juan Basin (covering north and east sides), New Mexico and Colorado, 1950, V. C. Kelley, E. C. Beaumont, and Caswell Silver, eds., 152 p., 40 illus. Spiral bound. Second printing, 1971.	\$ 9.00
2. San Juan Basin (covering south and west sides), New Mexico and Arizona, 1951, Clay T. Smith and Caswell Silver, eds., 163 p., 71 illus. Spiral bound. Second printing, 1971.	9.00
3. Rio Grande Country, central New Mexico, 1952, Ross B. Johnson and Charles B. Read, eds., 126 p., 50 illus. Spiral bound. Second printing, 1972.	6.00
4. Southwestern New Mexico, 1953, Frank E. Kottlowski, ed., 153 p., 70 illus. Spiral bound. Second printing, 1972.	9.00
5. Southeastern New Mexico, 1954, T. F. Stipp, ed., 209 p., 76 illus. Spiral bound. Second printing, 1974.	9.00
6. South-central New Mexico, 1955, J. Paul Fitzsimmons, ed., 193 p., 66 illus. Prepared in cooperation with the Roswell Geological Society. Second printing, 1973.	10.00
7. Southeastern Sangre de Cristo Mountains, New Mexico, 1956, A. Rosenzweig, ed., 151 p., 61 illus. Spiral bound.	8.00
8. Southwestern San Juan Mountains, Colorado, 1957, Frank E. Kottlowski and Brewster Baldwin, eds., 258 p., 110 illus. Spiral bound.	9.00
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10. West-central New Mexico, 1959, James E. Weir, Jr., and Elmer H. Baltz, eds., 162 p., 91 illus. Second printing, 1974.	12.00
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15. Ruidoso Country (New Mexico), 1964, Sidney R. Ash and Leon V. Davis, eds., 195 p., 64 illus.	12.00
16. Southwestern New Mexico II, 1965, J. Paul Fitzsimmons and Christina Lochman Balk, eds., 244 p., 73 illus.	14.00
17. Taos-Raton-Spanish Peaks Country (New Mexico and Colorado), 1966, Stuart A. Northrop and Charles B. Read, eds., 128 p., 40. Second printing, 1974.	10.00
18. Defiance-Zuni-Mt. Taylor Region (Arizona and New Mexico), 1967, Frederick D. Trauger, ed., 228 p., 98 illus. Second printing, 1975.	14.00
19. San Juan-San Miguel-La Plata Region (New Mexico and Colorado), 1968, J. W. Shomaker, ed., 212 p., 95 illus.	14.00
20. The Border Region (Chihuahua, Mexico and the United States), 1969, D. A. Cordoba, S. A. Wengerd, and J. W. Shomaker, eds., 228 p., 159 illus.	17.00
21. Tyrone-Big Hatchet Mountains-Florida Mountains Region (New Mexico), 1970, L. A. Woodward, ed., 176 p., 84 illus.	14.00
22. San Luis Basin (Colorado), 1971, H. L. James, ed., 340 p., 226 illus.	19.00
23. East-central New Mexico, 1972, Vincent C. Kelley and Frederick D. Trauger, eds., 236 p., 128 illus. Special publication No. 4 included with purchase.	16.00
24. Monument Valley (Arizona, Utah, and New Mexico), 1973, H. L. James, ed., 232 p., 160 illus.	15.00
25. Ghost Ranch (central-northern New Mexico; Nacimiento, San Pedro, Jemez and Tusas Mountain Ranges), 1974, Charles T. Siemers, Lee A. Woodward and Jonathan F. Callender, eds., 404 p., 273 illus.	20.00
26. Las Cruces Country (central-southern New Mexico), 1975, William R. Seager, Russell E. Clemons and Jonathan F. Callender, eds.	22.00

SPECIAL PUBLICATIONS

1. Bibliography and index of the New Mexico Geological Society Guidebooks, 1950-63; compiled by Sidney R. Ash, 31 p.	\$ 2.50
2. History of the New Mexico Geological Society, 1947-1968; by Stuart A. Northrop, 78 p.	2.50
3. The San Andres Limestone: a reservoir for oil, gas and water ... (a symposium); F. E. Kottlowski and W. K. Summers, eds., 51 p., 35 illus.	4.50
4. Subsurface geology of east-central New Mexico by R. W. Foster, R. M. Frentess, and W. C. Riese, 22 p., 11 figs. (includes 8 isopach maps)	3.50

MAPS

a. Geologic highway map of New Mexico (in color, 23 x 29 in.), compiled by Frank E. Kottlowski and others. Rolled, \$2.75; tilded.	\$ 2.50
b. Geologic map of the Sierra Country Region, compiled by Vincent C. Kelley, in Guidebook 6.	2.50
c. Geologic map of the Albuquerque Country, compiled by Stuart A. Northrop and A riette Hill; in Guidebook 12.	2.5
d. Tectonic map of the Ruidoso-Carrizozo Region, by V.C. Kelley and Tommy B. Thompson; in Guidebook 15.	2.50
e. Tectonic map of the Defiance-Zuni-Mt. Taylor Region, by V.C. Kelley; in Guidebook 18.	2.50
f. Tectonic map of the Rio Grande Region (in color), compiled by L. A. Woodward and others.	2.50

COMPLETE SETS

Guidebooks 1-26 inclusive, Special Publications 1-4, and Geologic highway map of New Mexico (folded), postpaid.	\$260.00
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*Prices shown include \$1.00 per item for postage and handling.

All publications are available by mail from the New Mexico Bureau of Mines and Mineral Resources, Socorro, NM 87801. Guidebooks, and the geologic highway map, are available over the counter at the New Mexico Bureau of Mines and Mineral Resources; the Department of Geology, University of New Mexico; Holman's, Inc. 401 Wyoming Blvd., Albuquerque; the Museum of Northern Arizona, Flagstaff; Pebble Pups Rock Shop, Las Cruces; and Roswell Map and Blueprint Co., 125 East 3rd St., Roswell.

A 30 percent reduction from the price of each publication is offered to students. Sales to students will be made only at the New Mexico Bureau of Mines at Socorro, the Department of Geology, University of New Mexico, Albuquerque, and the Department of Earth Sciences, New Mexico State University, Las Cruces. Student orders must be verified by the Department Chairman or another official of similar authority in the school attended. Only one copy of each publication may be purchased at the student price.

1975 FIELD CONFERENCE SCHEDULE

WEDNESDAY, NOVEMBER 12

1:00 p.m.-9:00 p.m.

5:30 p.m.-7:00 p.m.

REGISTRATION DAY

Register at Rodeway Inn

"Welcome" Party

THURSDAY, NOVEMBER 13

7:30 a.m.

6:00 p.m.-7:00 p.m.
beer and soft drinks

7:00 p.m.
dinner

FIRST DAY FIELD TRIP

Board Buses (Rodeway Inn) Charter to San Andres Mountains

Lunch enroute

Distance: 70.5 miles

Stops: 5

!FIESTA! Holy Cross Retreat

FRIDAY, NOVEMBER 14

7:30 a.m.

SECOND DAY FIELD TRIP

Board Buses (Rodeway Inn) Charter to Sierra de Las Uvas, Aden Crater, and southern Mesilla Valley

Lunch enroute

Distance: 130.1 miles

Stops: 5

Evening Free

SATURDAY, NOVEMBER 15

7:30 a.m.

THIRD DAY FIELD TRIP

Auto-caravan assembly (eastside Valley Drive). Caravan will tour north Mesilla Valley, Cedar Hills, Selden Canyon, San Diego Mountain and Rincon Valley.

Lunch enroute

Distance: 52.7 miles

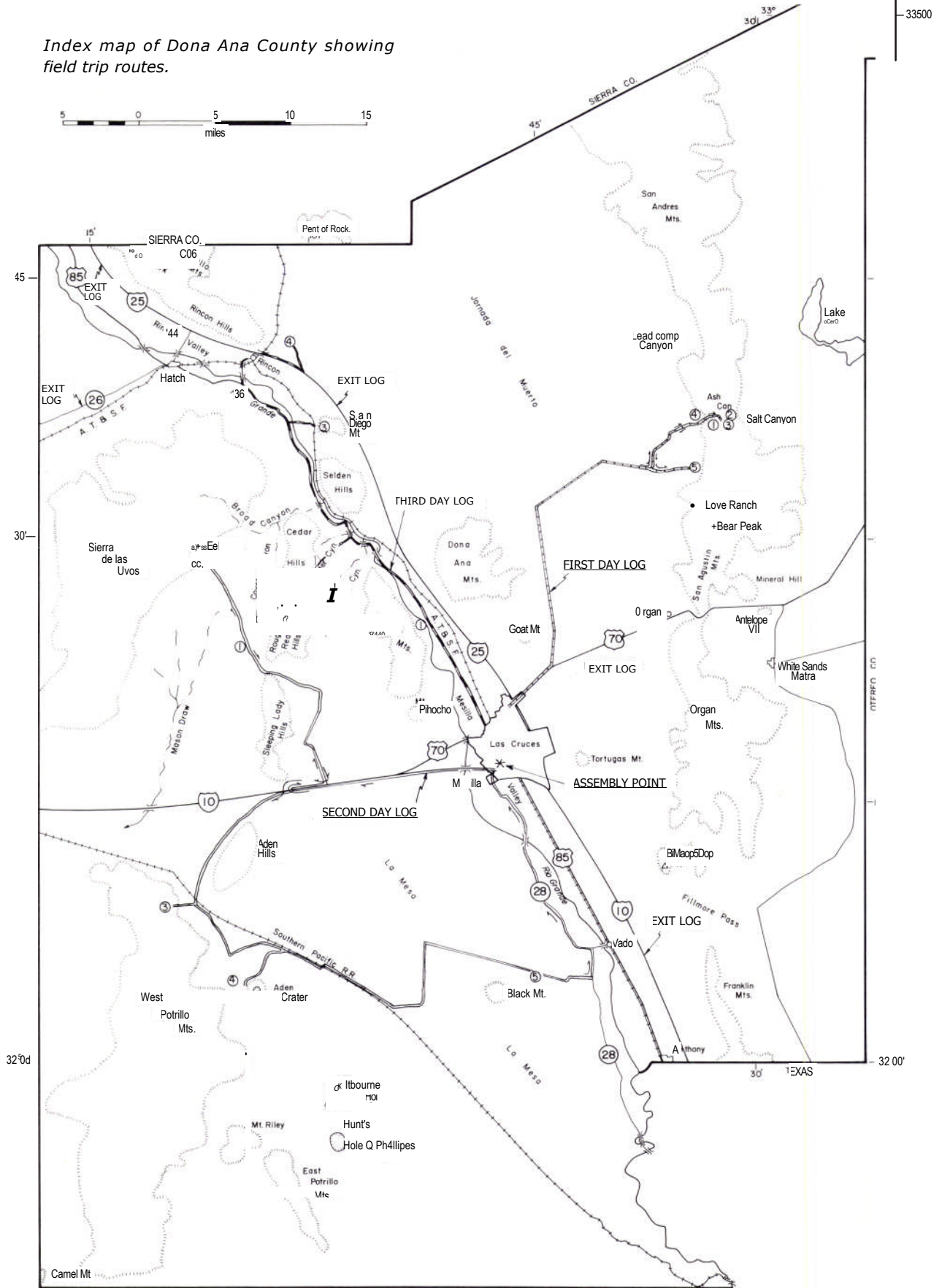
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Index map of Dona Ana County showing field trip routes.





Apollo 6 photo of the Las Cruces Country. Scale is approximately 1 inch equals 10 miles.