NEW MEXICO GEOLOGICAL SOCIETY

Guidebook

OF

SOUTH-CENTRAL

NEW MEXICO

SIXTH FIELD CONFERENCE

NOVEMBER 11-12 & 13, 1955
The officers and field trip committee members of the New Mexico Geological Society and the Roswell Geological Society wish to extend to all conferees a warm and personal welcome to our Sixth Field Conference. This is the first joint venture of the two Societies, and we are confident that all will agree a field conference such as this could not materialize without the prevalence of an extremely cooperative spirit among those planning and managing this endeavor. Distances separating committee members presented a handicap, yet this conference serves as a commendable example of the ability of geological groups to unite in common purpose. We know that all participants will wish to join us in expressing sincere thanks and congratulations to those individuals of both Societies who assumed the responsibilities of organization and planning.

The region to be examined by this conference has a varied sedimentary section that represents a large majority of the units comprising the geologic column. The complex structure is a challenge to the inquiring mind. Regardless of whether your interest is academic, in the mining field, or in petroleum, you will be stirred by the geology to be observed and discussed.

One of the great advantages of a gathering such as this is the opportunity to form new acquaintances, renew former friendships, and enjoy informal discussion of our chosen field. The undersigned know that you will enjoy the good fellowship afforded by this conference, and we extend to each of you a cordial invitation to return next year.

Rex Alcorn, President
The Roswell Geological Society

Eugene Callaghan, President
The New Mexico Geological Society
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ACKNOWLEDGMENTS

The officers and members of the New Mexico Geological Society and the Roswell Geological Society wish to express their appreciation to the Military Authorities of the White Sands Proving Grounds for permission to study the stratigraphic section in the San Andres Mountains. Particularly is this appreciation directed to Colonel James R. Mills, Executive Officer, to Colonel F. W. Laskowski, Adjutant, and to Colonel George W. Harris, Provost Marshall, White Sands Proving Grounds. Gratitude is expressed to Stanford L. Rose, of the Standard Oil Company of Texas, who, as General Chairman, did a fine job of organization of the field conference before he was transferred from the territory and was thus prevented from attending the full development of the program. There are no words to repay those who gave freely of their time, effort, and thought to produce this guidebook and to effect, hopefully, a fruitful, informative field conference. There is no money to repay them either, for what was freely given was as freely received. But without the intellectual donations of these competent men, such field conferences would not be possible. Such donations are not everywhere labelled with the author's name; they may be in part anonymous, in part so involved in the work of others that the product of one man's thoughts cannot be separated from those of another. They are equally appreciated. To all who contributed then, in any form, a grateful smile and a firm handclasp.
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SCHEDULE

Thursday, November 10.
12:00 m. Registration. Recreation Center in Truth or Consequences. Afternoon and Evening.

Friday, November 11. Trip to the San Andres Mountains.
7:00 a.m. Caravan assembles at intersection of Date (U.S.85) and Third (N. M. 51) Avenues.
7:30 a.m. Caravan leaves Truth or Consequences.
12:00 m. Lunch in Rhodes Canyon near mouth of Bearden Canyon : 43 :3 miles from assembly point.
3:30 p.m. Caravan leaves San Andres Mountains.
5:00 p.m. Arrival in Truth or Consequences.
7:30 p.m. Late Registration at the Recreation Center in Truth or Consequences.

Saturday, November 12, Trip to the Sierra Cuchillo
7:30 a.m. Caravan assembles at the north end of the Cuchillo Creek Bridge ; 2.5 miles north of the Post Office on U. S. 85. (Mileage 2.5 on second day's road log.)
8:00 a.m. Caravan leaves assembly point.
12:30 p.m. Lunch in vicinity of Winston. 3
3:30 p.m. Brown City. Disband.
5:00 p.m. Arrival in Truth or Consequences.
6:00 p.m. Cocktail Hour. Recreation Center in Truth or Consequences.
7:00 p.m. Banquet. Recreation Center in Truth or Consequences.

Sunday, November 13. Trip to Elephant Butte and north end of the Caballo Mountains.
7:30 a.m. Caravan assembles at intersection of Date (U. S. 85) and Third (N. M. 51) Avenues.
8:00 a.m. Caravan leaves Truth or Consequences.
12 :00 m. Lunch in eastern "foothills" of Caballo Mountains ; 27.5 miles from assembly point.
3:30 p.m. Caravan disbands at Stop No. 4 on west side of Caballo Mountains.

END of CONFERENCE
GENERAL INSTRUCTIONS

1. It is imperative that the caravan starts each morning at the announced departure time. Please assemble at assembly time, not at departure time.

2. If you require transportation for the trip, notify a member of the Caravan Committee at time of registration.

3. Please pay your lodging bill in advance or before you go to breakfast so you will not delay the departure time of the caravan.

4. The person sitting in the front seat with the driver will keep him informed of stops, points of danger, points of interest, etc., noted in the road log, and he should read the geologic road log to the driver.

SPECIAL INSTRUCTIONS TO CAR DRIVERS

1. DO NOT DISREGARD THE WARNINGS IN THE ROAD LOGS CONCERNING ROAD CONDITIONS. THEY ARE FOR YOUR PROTECTION.

2. You will be given numbered placards for attachment to your car windows. This number designates your position in the caravan and must be displayed. NO CAR WILL BE ASSIGNED A NUMBER UNLESS IT WILL CARRY AT LEAST FOUR PASSENGERS.

3. If for any reason you have dropped out of line you may resume your position at any subsequent stop. A space will be left for you by the driver to your rear at all stops until you return.

4. Never pass another conference car while the caravan is in motion unless that car has dropped out of line.

5. If you have car trouble, please stop at the side of the road and allow the caravan to pass. If you need help, flag down the tow-car which will be at the rear of the caravan.

6. Please service your car at night to insure prompt departure the following morning.

7. You should carry water if your car has a tendency to overheat.

8. Please pay particular attention to instructions pertaining to parking at all stops and promptly obey the directions of the flag men.
INTRODUCTION

By J. Paul Fitzsimmons
University of New Mexico

In contrast to the earlier field conferences of the New Mexico Geological Society, this, the sixth annual gathering for the purpose of concentrated field study in some phase of New Mexico geology, will encompass a comparatively small geographic area. The excursions will, in fact, be confined to a part of Sierra County, and, for the first time in this series of events, will radiate from a center, like spokes from a hub, rather than lie end to end like a string of sausages, or like drilling pipe if you prefer. Truth or Consequences will be the center of the wheel and all trips will start from there. Nor are the excursions as long, in miles to be driven, as those of former years.

By confining the conference to this smaller geographic radius, however, the Society has by no means restricted itself to any lack of variety in geological phenomena. Rocks ranging in age from Precambrian to Pleistocene and including sedimentary, igneous, and metamorphic types are exposed, and will be visited. Both large- and small-scale structures are present, from folds and faults to vugs and vesicles. Mineral collectors, fossil collectors, picture collectors, but pray no tax collectors, may have more than one occasion to delight themselves.

If the time of this conference coincide with hunting season or interfere with other scientific meetings, the fault is not entirely that of the Conference Committee. Government regulations made it mandatory to visit the San Andres Mountains--a principal attraction of the conference-- on a holiday. The fact that holidays are somewhat erratically scattered through the calendar was a disturbing thorn in planning this gathering.

The committee hopes that any disadvantages may be more than offset by the lure of forbidden, fringe, and provocative areas. It is no longer an easy task to view the geology of the San Andres Mountains. In the Sierra Cuchillo area one gets his last look at the Precambrian-Paleozoic-Mesozoic section before it disappears beneath the sea of lava to appear no more till it comes to surface again far to the west in Arizona. In the Caballo and Fra Cristobal Mountains are to be found some of the best examples of overturned folds and of complex faults anywhere in the state. And in these ranges, furthermore, one may get an excellent view of the northward pinch-out of most of the Lower Paleozoic rocks.

Further recommendation seems hardly necessary. Almost every phase of the geology and the geography of the area is covered in one or more of the several articles included in the guidebook. It would be superfluous to dwell upon them at greater length here.

The climate of the area ranges from arid to semi-arid, except in the higher parts of the Black Range at the western border. Because of their narrow ridged crests, other mountain ranges of the area have little terrain at sufficient altitude to affect the climate as does the Black Range on the west and the Sacramento Mountains on the east.

The relief of the area is in the neighborhood of 5,000 feet, ranging from about 4,000 feet above sea-level at the south edge in Tularosa basin and 4,100 feet above sea-level where the Rio Grande leaves the area to nearly 9,000 feet above sea-level at Salinas Peak in the San Andres Mountains. Peaks of the Black Range may exceed 10,000 feet in altitude, but these higher reaches are west of the area of the conference.

The population of the area is concentrated in Truth or Consequences and its environs. Health seekers and the suppliers of their needs constitute a very large proportion of the population of this community. Hunters and fishermen annually make it their headquarters. Elephant Butte and Caballo reservoirs, designed for irrigation purposes, are utilized for their primary end chiefly south of the conference area. Those that live near the lakes or that come to the lakes use them for pleasure boating or for fishing, or for both.

Outside Truth or Consequences, ranching is the principal occupation. Mining and prospecting keep a few busy, but the financial returns are meager.
White Sands Proving Grounds occupies most of the western part of the area, the eastern part of Tularosa basin and almost all the San Andres Mountains, but the employees of the various government projects mostly work and live outside the boundaries of the field-trip area.

Three parts of the area are to be visited on the three successive days of the conference. The first day will be spent entirely in examining the section of the San Andres Mountains as displayed in Rhodes Pass. Rocks range in age from Precambrian to Recent, but the Paleozoic sequence is best developed and exposed and will be the chief material of discussion. The second day will take the conferees to the Sierra Cuchillo-Iron Mountain area where the rocks are principally Paleozoic sediments and Cenozoic volcanics and sediments. Metamorphic rocks and various ore deposits are also highlights of this area. On the third and last day of the conference, the area about Elephant Butte dam and the northern end of the Caballo Mountains will be visited. Again rocks ranging in age from Precambrian to Recent will be encountered. The Paleozoic and the Mesozoic sections are especially well developed and well exposed here. General discussion of any feature is invited.

WELCOME to the FIELD CONFERENCE!