

New Mexico Geological Society

Downloaded from: <https://nmgs.nmt.edu/publications/guidebooks/7>



Front Matter

(Usually includes Dedication, President's Message, & Conference Organizer's Message.)

in:
Southeastern Sangre de Cristo Mountains, Rosenweig, A.; [ed.], New Mexico Geological Society 7th Annual Fall Field Conference Guidebook, 151 p.

This is a section from the 1956 NMGS Fall Field Conference Guidebook.

Annual NMGS Fall Field Conference Guidebooks

Every fall since 1950, the New Mexico Geological Society (NMGS) has held an annual [Fall Field Conference](#) that explores some region of New Mexico (or surrounding states). Always well attended, these conferences provide a guidebook to participants. Besides detailed road logs, the guidebooks contain many well written, edited, and peer-reviewed geoscience papers. These books have set the national standard for geologic guidebooks and are an essential geologic reference for anyone working in or around New Mexico.

Free Downloads

NMGS has decided to make peer-reviewed papers from our Fall Field Conference guidebooks available for free download. This is in keeping with our mission of promoting interest, research, and cooperation regarding geology in New Mexico. However, guidebook sales represent a significant proportion of our operating budget. Therefore, only *research papers* are available for download. *Road logs*, *mini-papers*, and other selected content are available only in print for recent guidebooks.

Copyright Information

Publications of the New Mexico Geological Society, printed and electronic, are protected by the copyright laws of the United States. No material from the NMGS website, or printed and electronic publications, may be reprinted or redistributed without NMGS permission. Contact us for permission to reprint portions of any of our publications.

One printed copy of any materials from the NMGS website or our print and electronic publications may be made for individual use without our permission. Teachers and students may make unlimited copies for educational use. Any other use of these materials requires explicit permission.

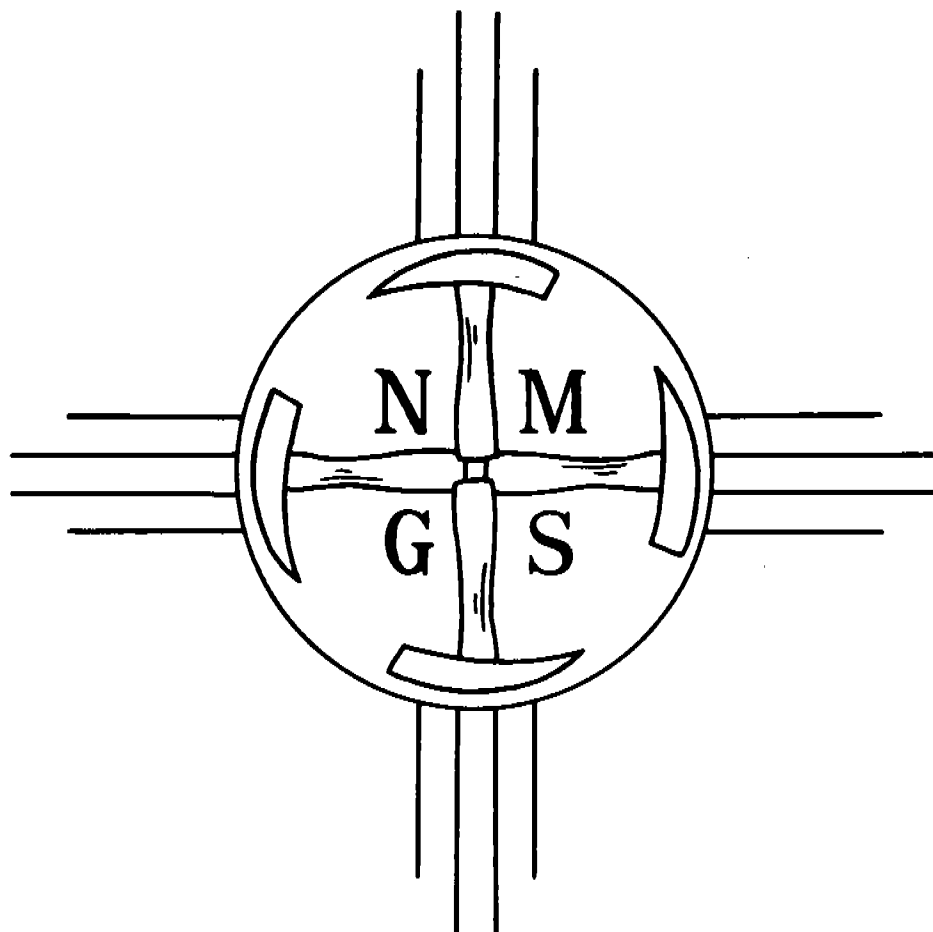
This page is intentionally left blank to maintain order of facing pages.

PUBLICATIONS

1. 1950 Guidebook; San Juan Basin, New Mexico and Colorado; 153 pages, 40 illustrations, edited by V. C. Kelley et al. (out of print)
2. 1951 Guidebook; South and west sides of the San Juan Basin, New Mexico and Arizona; 163 pages, 69 illustrations, edited by Clay T. Smith and Caswell Silver. (out of print).
3. 1952 Guidebook; Rio Grande Country, central New Mexico; 126 pages, 51 illustrations, edited by Ross B. Johnson and Charles B. Read.
4. 1953 Guidebook; Southwestern New Mexico; 156 pages, 67 illustrations, edited by Frank E. Kottlowski et al.
5. 1954 Guidebook; Southeastern New Mexico; 213 pages, 83 illustrations edited by T. F. Stipp.
6. 1955 Guidebook; South-central New Mexico; 193 pages; 70 illustrations, edited by J. Paul Fitzsimmons.

These publications may be purchased over the counter at the New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico; and at the Geology Department, University of New Mexico, Albuquerque, New Mexico. They may be ordered by mail from the Director, New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico.

NEW MEXICO GEOLOGICAL SOCIETY



Guidebook

OF

SOUTHEASTERN
SANGRE DE CRISTO MOUNTAINS
NEW MEXICO

SEVENTH FIELD CONFERENCE

OCTOBER 19, 20 & 21, 1956

RED RIVER PASS FROM RELICA PEAK NORTH OF WHEELER PEAK.

(courtesy of Harold D. Walter, Santa Fe)



CONTENTS

New Mexico Geological Society, Officers and Committees	7
Acknowledgements	8
Schedule	9
Instructions	12
Introduction	
By A. Rosenzweig	13
First Day of Field Conference	
Resume of Geology	15
Road Log	23
Second Day of Conference	
Resume of Geology	49
Road Log	53
Third Day of Conference	
Resume of Geology	82
Road Log.....	87
Supplemental Road Log, Mora to Sapello	94
Notes on the Geology of the Southeastern Sangre de Cristo Mountains, New Mexico	
By E. H. Baltz and G. O. Bachman.....	96
The Rio Grande Depression from Taos to Santa Fe	
By V. C. Kelley	109
The Santa Fe Group of North - Central New Mexico	
By Brewster Baldwin	115
Late Cretaceous and Tertiary Stratigraphy of the Raton Basin of New Mexico and Colorado	
By R. B. Johnson, G. H. Dixon, and A. A. Wanek	122
Stratigraphy of the Plains Area Adjacent to the Sangre de Cristo Mountains, New Mexico	
By R. L. Griggs and S. A. Northrop	134
Mining in the Southern Part of the Sangre de Cristo Mountains	
By E. C. Anderson	139
Precambrian Geology of the Picuris Range, North - Central New Mexico	
By Arthur Montgomery	147
Members of the New Mexico Geological Society	147
Business and Professional Directory	152

ILLUSTRATIONS

Red River pass from Relica Peak north of Wheeler Peak	Frontispiece
Mosaic of Southern Sangre de Cristo Mountains	10-11
Graphic sections of Magdalena group and Sangre de Cristo formation in the Southern Sangre de Cristo Mountains	16
Map showing the thickness of rocks from the base of the Magdalena group to the top of the Abo or Sangre de Cristo formation	18
Graphic sections of Permian rocks in the southern Sangre de Cristo Mountains	19
Map showing combined thickness of Yeso and San Adres formations.....	20
Index to maps for first day	24
Map 1-1	25
Map 1-2	26
Explanation for geologic maps 1-2 and 1-4	27
Map 1-3	31
West wall of Pecos River canyon at Dalton Campground	34
West side of Pecos River at Terrero near Stop 2	35
View to north through gorge of Pecos River	37
Map 1-4	38
Glorieta Mesa from Pecos State Monument, Stop 4	39
Bernal Butte	42
Map 1-5	43
Explanation for maps 1-5, 1-6, 2-3, and 2-4	44
Map 1-6 and 2-1	47
Graphic sections of Paleozoic rocks in parts of Mora County, New Mexico	51
Index to maps for second day	54
Map 2-2	55
View of east front of Elk Mountain Range from Stop 1	57
Southeast side of Hermit's Peak	60
Panoramic view south side of Gallinas River at Montezuma, Stop 2	63
Map 2-3	64
Map 2-4	65
East front of the mountains from north of Storrie Lake	66

NEW MEXICO GEOLOGICAL SOCIETY * SEVENTH FIELD CONFERENCE

Map 2-5	68
Bioherm in black shale of upper Sandia formation	70
View to north of wind gap south of Mora River at Stop 3	72
Map 2-6	73
View to the east from Holman Hill at Stop 4	75
North side of Rio Pueblo canyon at Tres Ritos ski area	77
Cross-bedded conglomeratic sandstone of the Sandia formation; north side of Rio Pueblo canyon	78
North side of Rio Pueblo canyon west of bridge at Stop 5	78
Map 2-7 and 3-1	80
View to northeast across Taos	81
Index to road maps for third day	88
Map 3-2	89
Panoramic view of Moreno Valley to the north	90
East side of Moreno Valley near Monte Verde Ranch	91
Hill north of Eagle Nest between dam and Eagle Nest Lodge	92
Panoramic view of north side of Comanche Creek west of Mutz Ranch	93
Geographic and physiographic features of the southern Sangre de Cristo mountains	97
Relations of Paleozoic rocks in the southeastern Sangre de Cristo mountains	98
Principal structural features of the southeastern Sangre de Cristo mountains and adjacent region in New Mexico	105
Structural profiles across parts of the southeastern Sangre de Cristo mountains and adjacent region.	106
Tectonic map of the Rio Grande depression and adjacent regions between Santa Fe and Taos, New Mexico	110
Regional sketch map of the Rio Grande valley and its environs	117
Nomenclature and tentative correlations of units in the Santa Fe group	118
Map of the structural Raton Basin of New Mexico and Colorado	123
Upper Cretaceous and Tertiary formations of the Raton Mesa region and Huerfano Park	124
Contact relationships of Vermejo formation, Trinidad sandstone, and Pierre shale between Cimmaron and Dawson, New Mexico	125
Isopach map of the Trinidad sandstone in the Raton Mesa region of Colorado and New Mexico	126

NEW MEXICO GEOLOGICAL SOCIETY * SEVENTH FIELD CONFERENCE

Isopach map of the Vermejo formation in the Raton Mesa region of Colorado and New Mexico	127
Diagram showing inferred intertonguing relationships of the Poison Canyon formation and Raton formation between Weston, Colorado and Ute Park, New Mexico	129
Contact relationships between Poison Canyon formation and underlying Tertiary and Cretaceous formations from vicinity of Trinidad, Colorado to southern part of Huerfano Park, Colorado	130
Index of mining districts in the southern part of the Sangre de Cristo mountains	139
Geologic map of the Picuris Range	144

NEW MEXICO GEOLOGICAL SOCIETY * SEVENTH FIELD CONFERENCE

NEW MEXICO GEOLOGICAL SOCIETY

OFFICERS

Clay T. Smith	President	New Mexico Institute of Mining and Technology
Brewster Baldwin	Vice President	State Bureau of Mines
Sherman A. Wengerd	Secretary	University of New Mexico
J. Paul Fitzsimmons	Treasurer	University of New Mexico

FIELD CONFERENCE COMMITTEE

General chairman	Brewster Baldwin	State Bureau of Mines
Road Log	Charles B. Read Elmer Baltz R. W. Foster	U. S. Geological Survey U. S. Geological Survey State Bureau of Mines
Trip arrangements	William E. Hale Frank Titus	U. S. Geological Survey U. S. Geological Survey
Reservations	Zane Spiegel	State Engineer's Office
Editor	A. Rosenzweig	University of New Mexico
Assistant editor	Philip T. Hayes	U. S. Geological Survey
Publicity	Sidney Spiegel	Consultant
Advertising	Paul M. Laird	Sinclair Oil & Gas Company

ACKNOWLEDGEMENTS

The New Mexico Geological Society and the members of the Conference Committee wish to acknowledge with gratitude and appreciation the assistance and cooperation of all those members, individuals, organizations and advertisers who have contributed to the field conference and guidebook.

The society is particularly indebted to the authors of the various papers appearing in the guidebook. These individuals have contributed generously of their time and knowledge to furnish invaluable material for the conference. A special word of thanks is due those persons whose efforts resulted in the road logs and geological resumes which are the core of our activities.

To the Mutz brothers of Eagle Nest, Ed Springer, and the Monte Verde Ranch, a word of thanks for permitting us to cross and trample their fertile fields. Both speakers and audience at the various stops will be grateful to James W. McClure and the Lane-Wells Company for furnishing the sound equipment used on this trip. Our sincere thanks to the New Mexico State Police, and especially those officers accompanying the caravan, for their assistance and cooperation in managing so long a string of cars. Finally, our appreciation to the following organizations and their personnel who have contributed so generously of their time: the New Mexico Institute of Mining and Technology, the State Bureau of Mines, the State Engineer's Office, the University of New Mexico, and the United States Geological Survey.

SCHEDULE

Thursday, October 18.

3:00 pm to 10:00 pm. Registration. Lobby of the La Fonda Hotel,
Santa Fe.

Friday, October 19.

7:30 am Caravan assembles (see road log).

8:00 am Caravan leaves Santa Fe.

12:00 n Lunch at Cowles.

6:00 pm Caravan arrives in Las Vegas.

Saturday, October 20.

7:30 am Caravan assembles (see road log).

8:00 am Caravan leaves Las Vegas.

12:30 pm Lunch south of Mora.

6:30 pm Caravan arrives in Taos.

8:00 pm Banquet – Smorgasbord, Sagebrush Inn, Taos.

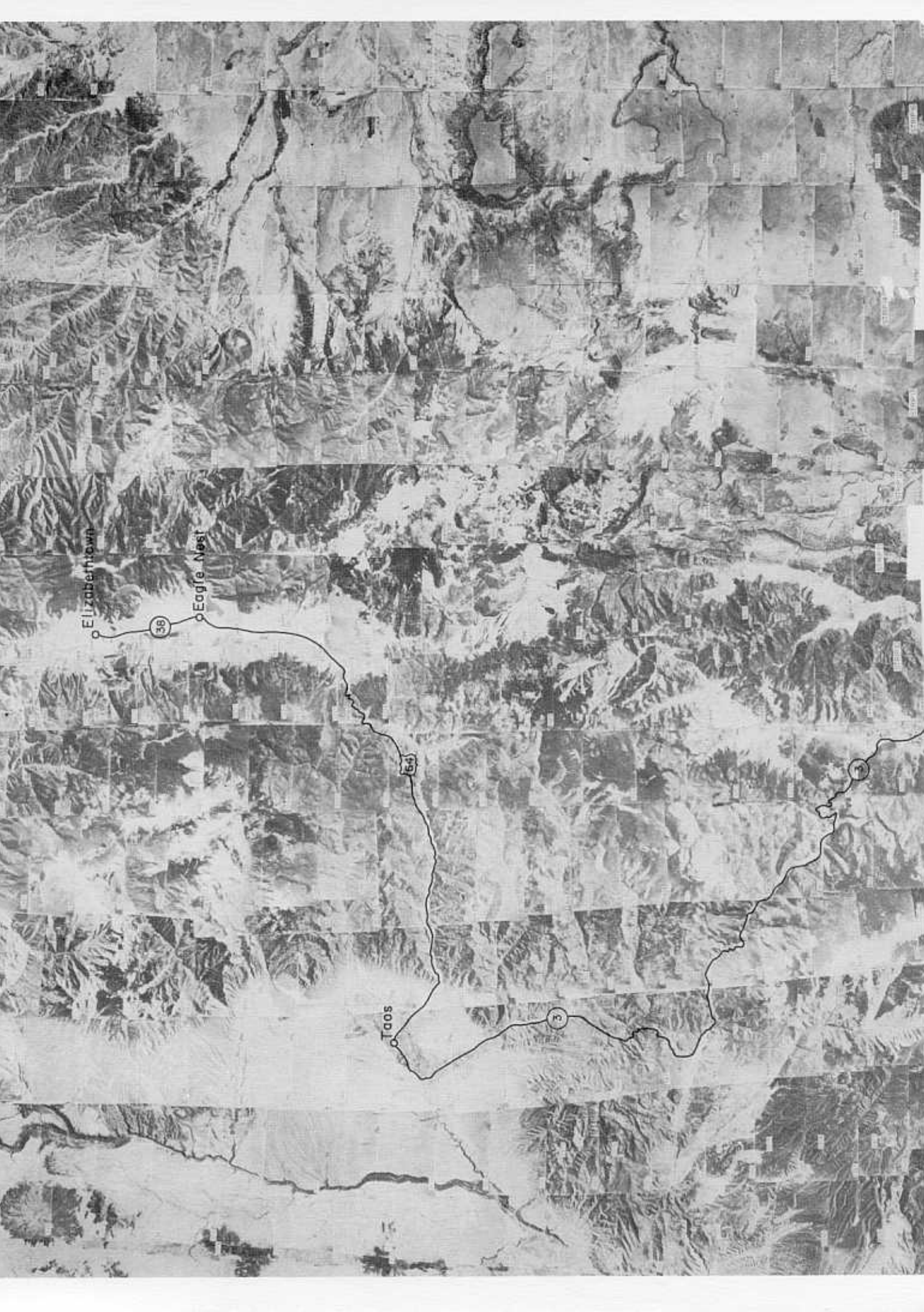
Sunday, October 21.

7:30 am Caravan assembles (see road log).

8:00 am Caravan leaves Taos.

12:00 n Lunch at Eagle Nest (pit barbeque).

4:00 pm Conference disbands at Stop 4.



Elizabethtown

Eagle Nest

Taos



MOSAIC OF SOUTHERN SANGRE DE CRISTO MOUNTAINS