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Front Matter

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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.

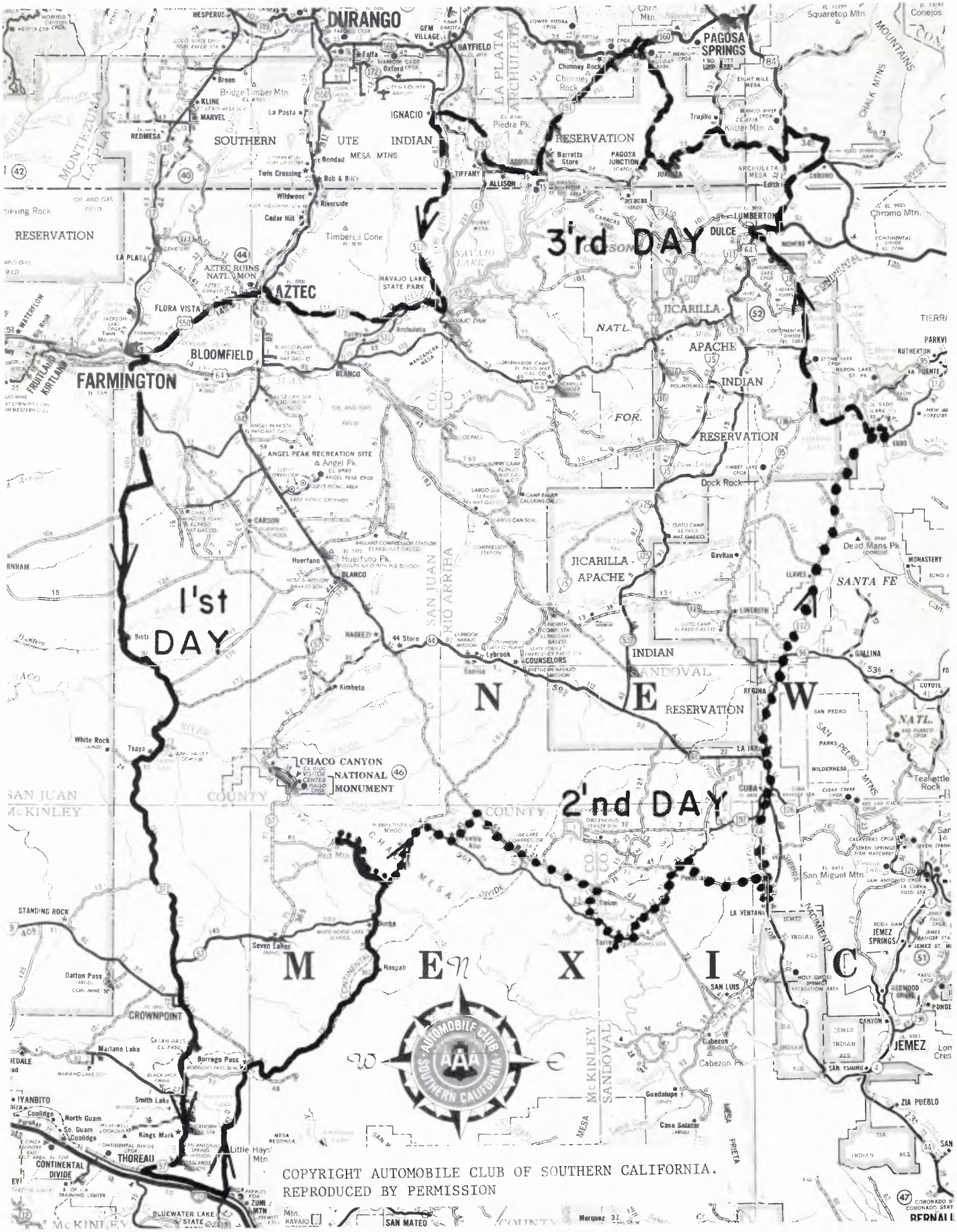
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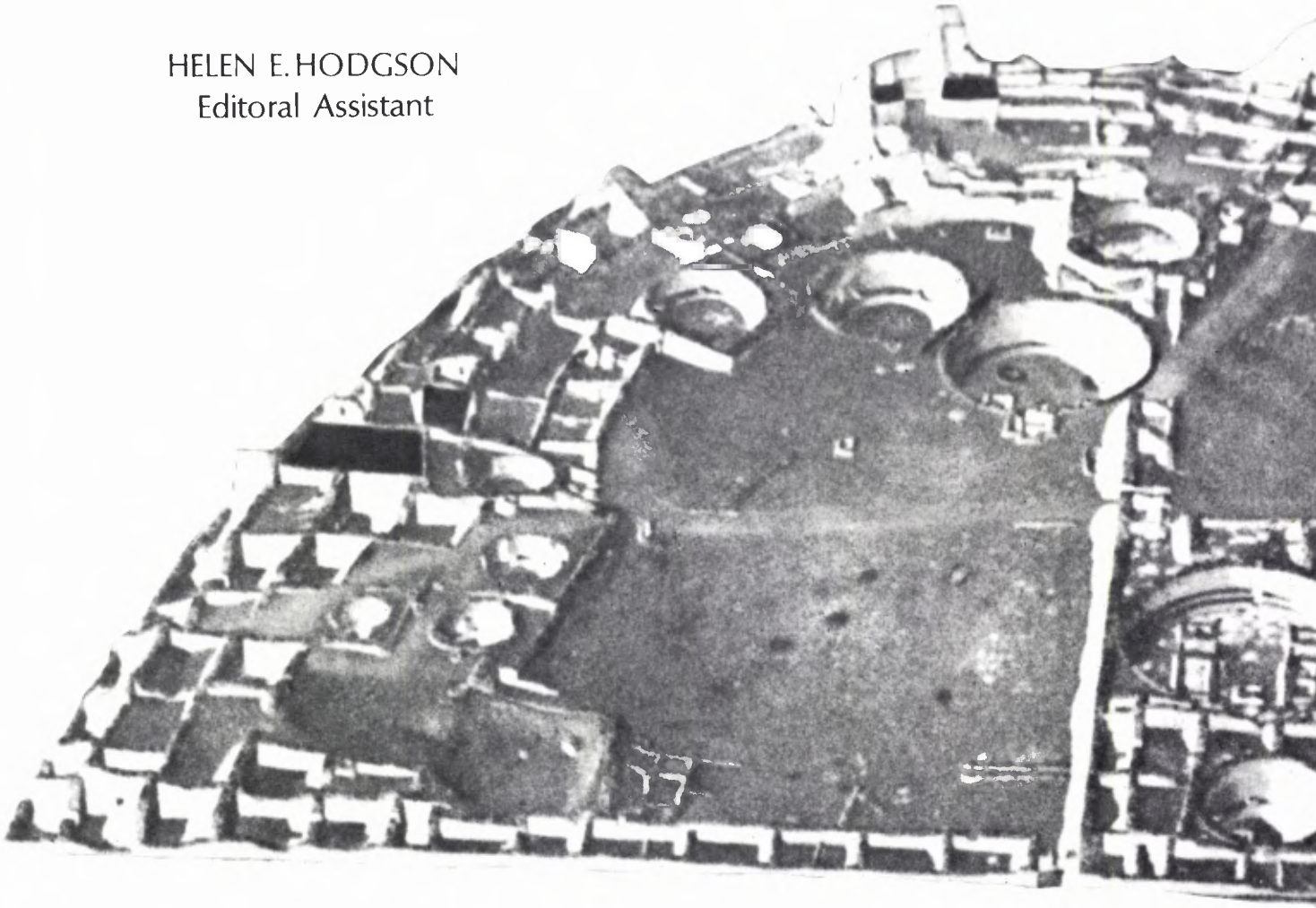
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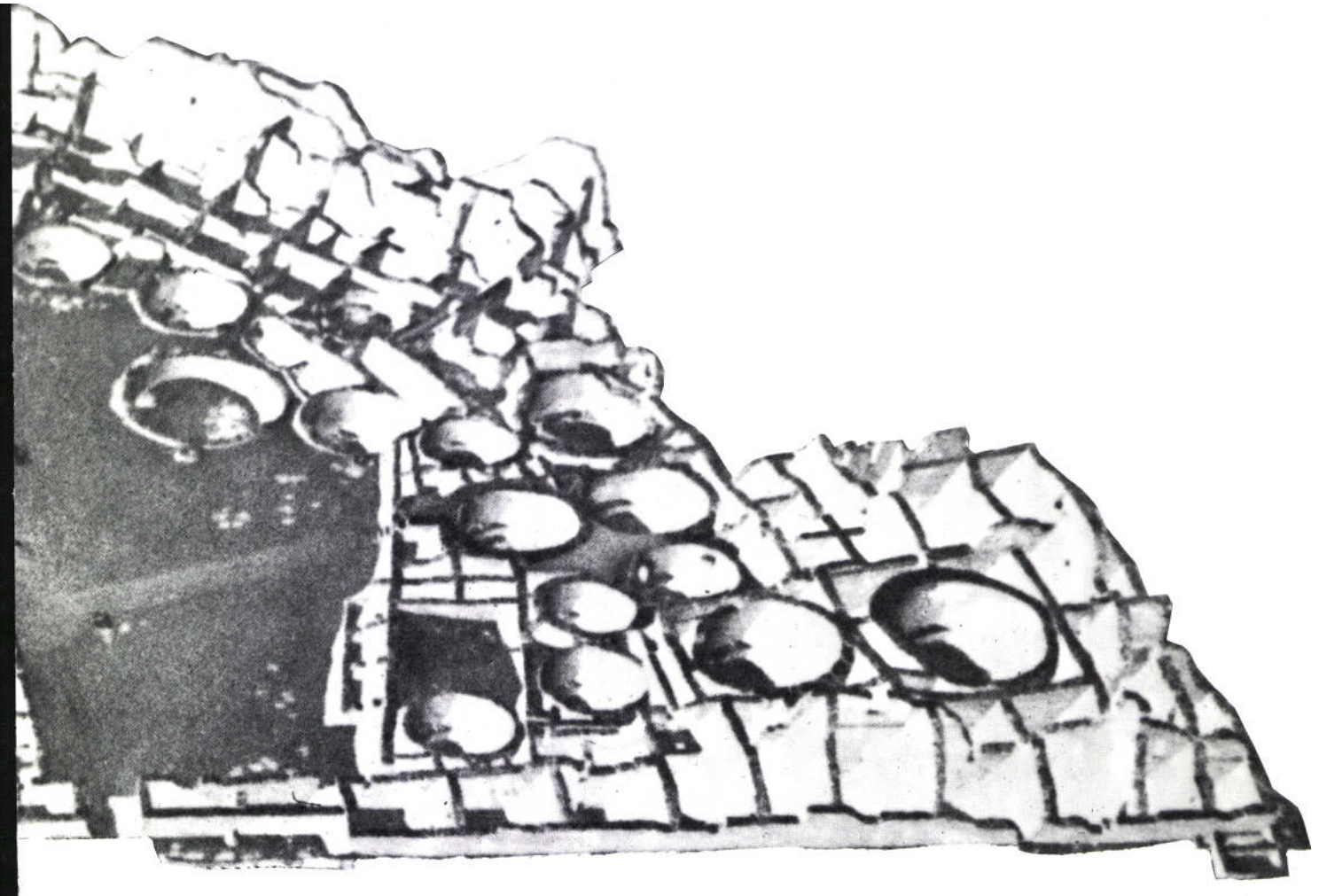
HELEN E. HODGSON
Editoral Assistant



New Mexico Geological Society

Twenty-Eighth Field Conference

September 15-17, 1977



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PRESIDENT'S MESSAGE

Welcome to the twenty-eighth consecutive Fall Field Conference of the New Mexico Geological Society. Each year seems to record some new milestone for the Society, and this year we have our first "camp-out" conference in the place where it all began, the San Juan Basin. It is well worth reflecting on the twenty-eight years of unabated enthusiasm, hard work and dedication that the Society represents. I think we can all be tremendously proud of this record.

San Juan Basin III would not have been possible without very large time commitments from the general chairman, editors and members of the committees listed on the following pages. I would especially like to thank Bruce Black, general chairman, for the overall handling of the conference program, particularly the complicated logistics for camping out and eating on the road. Jim Fassett, editor, has brought together a broad range of excellent papers covering almost every aspect of the regional and economic geology of the basin. I imagine this guidebook will be a standard reference on the San Juan Basin for many years.

The Society's ever increasing publication burdens made it necessary to initiate a new position to facilitate the production of the current guidebook and other publications. Harold James, managing editor, courageously volunteered for the job, and it is largely through his dedication that we have another superb book. The consistent effort of the Society to produce guidebooks of professional quality is in large part due to the editors and to our faithful advertisers, whom I hope you will acknowledge and support. Thanks also to Connie Krivanek for his excellent job of soliciting advertising for this guidebook.

Another in a series of successful spring meetings took place this year. In May the Society, the Permian Basin Section of SEPM and the New Mexico Bureau of Mines cosponsored a symposium on the Ochoan and Guadalupian rocks of southeastern New Mexico and west Texas. General chairman George Austin did a tremendous job organizing the five-day meeting, which was attended by about 200 geoscientists. He was ably assisted by Cy Gallick, Christopher Rautman and Mike Whyte.

Publications of the Society continue to be very popular. After three years of uncertainty, we seem to have passed the "treadmill" stage of reprinting guidebooks and will be able to continue offering a very comprehensive set of publications on New Mexico and adjacent areas. In order to do this, however, the Executive Committee decided that some of our older publications must be allowed to go out of print, although they will be available on microfiche, so that our newer publications will continue to be available in book form. It was clear that an inventory of over 20,000 books would be difficult to maintain without severely damaging the Society's financial security. The position of chairman of the publications committee is critical to the survival of the Society's educational role, and George Austin and Russ Clemons have played an especially significant part in developing our current publication policy.

I hope you enjoy your stay in the San Juan Basin and that you will continue to support and be active in the New Mexico Geological Society. On behalf of the Executive Committee and the organizing committees for this field conference, I wish you an exciting, educational and pleasurable trip.

Jonathan F. Callender
President

EDITOR'S MESSAGE

When I agreed to edit this guidebook I had little doubt that I could easily fill 600 pages with good, original papers. After all, the San Juan Basin had not been the site of a geologic field conference since 1951 and 1952 when the New Mexico Geological Society held its first and second field trips here. True, other field trips since then have covered parts of the basin rim but none were really devoted to examining the basin as a whole.

When the possibility of a 600 page guidebook was presented to the N.M.G.S. Executive Committee last year it was agreed that the world was probably not ready for a $50.00 guidebook and that the society could not possibly afford the printing costs for such a monolithic volume; thus, an optimum length of 300 pages was established. Working within those constraints, this guidebook was compiled and those of us working on this project feel that the book is well-balanced and offers a significant update of the geology of this classic, exciting and economically booming area. We hope you agree.

I would like to thank everyone who had a part in helping to create this book: the authors; managing editor, Harold James; editorial assistant, Helen Hodgson; and my wife, Sarah, who again has gone smilingly through the ordeal of being a "guidebook editor's widow" for the past several months.

J. E. Fassett
Editor

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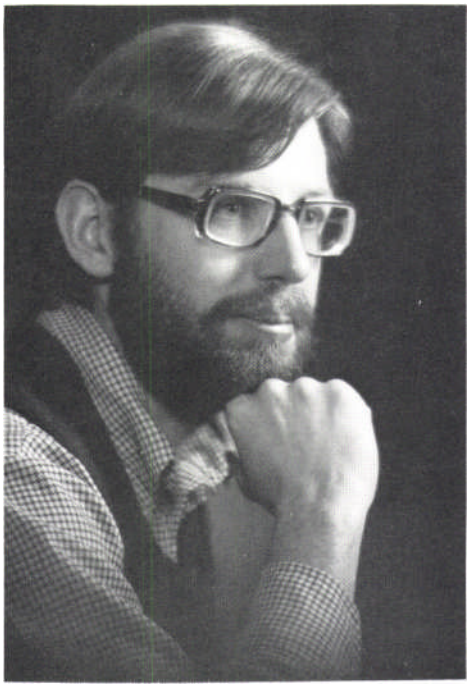
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A **MEMORIAL ...**



Gary A. Flesch
1949-1976

Gary Allen Flesch was born July 1, 1949, in Chicago, Illinois, and died of injuries sustained in an automobile accident December 16, 1976, while driving to a well site in western Oklahoma. After leaving the University of New Mexico in 1973 he was employed by Cities Service Oil Company in Tulsa, Oklahoma, for two years as a clastics sediments research assistant at the company's research laboratory. He had been employed as a geologist by Cities Service in Oklahoma City for less than a year.

It is fitting that this memorial appear in a New Mexico Geological Society guidebook, especially one on the geology of the San Juan Basin. During his short career Gary contributed in many ways to geological knowledge in and about New Mexico and will be fondly remembered by many members of the New Mexico geological community. After graduation from Lane Technical High School in Chicago, Gary attended New Mexico State University, Las Cruces, New Mexico, receiving a B.S. degree in geology in 1971. During the summer of 1971 he worked in the Grants area as a uranium field geologist for Gulf Mineral Resources of Albuquerque. He attended the University of New Mexico from 1971 to 1973 and completed his thesis and Masters of Science degree in 1975. Gary was a diligent and innovative teaching assistant in beginning geology courses andadvanced courses in stratigraphy, sedimentology and field geology; he always made a positive impression on his students. Gary's thesis work entitled *Stratigraphy, Sedimentology And Environments of Deposition of The Morrison Formation (Upper Jurassic), Ojito Spring Quadrangle, Sandoval County, New Mexico,* was the core of many of his contributions to the geology of northwestern New Mexico. He authored two excellent articles which appeared in the 25th N.M.G.S. Field Conference guidebook on central-northern New Mexico (1974); one an up-to-date discussion of Morrison stratigraphy and sedimentology, and the other a detailed discussion of Morrison petrography. In 1975 he contributed to a guidebook and field trip on the stratigraphy and sedimentology of Jurassic and Cretaceous strata of the San Juan Basin during the Rocky Mountain Section meetings of A.A.P.G. and S.E.P.M. in Albuquerque. Earlier, in 1973 he co-authored a paper on the sedimentology of the Dakota Formation of north-central New Mexico for the Four Corners Geological Society. Gary was always ready and willing to work for and contribute to organized activities concerning the Mesozoic stratigraphy of New Mexico.

In addition to N.M.G.S. membership, Gary also was a member of the American Association of Petroleum Geologists, Society of Economic Paleontologists and Mineralogists, International Association of Sedimentologists, Oklahoma City Geological Society, Tulsa Geological Society and the Rocky Mountain Association of Geologists. During his career, he delivered papers before almost all of these organizations. Topics other than that of his thesis subject included subsurface studies on the Mississippian Berea Sandstone of West Virginia, Permian Admire Sandstone of Kansas, and the lower and upper Morrow (Pennsylvanian) of Oklahoma. His work with Cities Service Research consisted mostly of interpretation of environments of deposition from cores and the analysis of reservoir quality from thin sections, slabbed cores and scanning electron microscopy. He was good at integrating detailed petrographic, sedimentologic and stratigraphic analyses with the practical aspects of subsurface petroleum geology and stood out as an innovative exploration and production geologist in his Oklahoma City position.

Gary Flesch is survived by his wife, Laura J. Tihor Flesch, who was a fellow student with him at New Mexico State University, a three year old son, Eric, his parents, three sisters and two brothers. He was a member of Hope Unitarian Church in Tulsa and was cremated following services at the First Unitarian Church of Oklahoma City.

On numerous occasions Gary mentioned his appreciation of the financial and educational assistance he received from the Department of Geology at the University of New Mexico, and based on his desires, a fund for supplementing graduate study in geology at the University has been established in his name. Contributions in his name can be made to the Department of Geology. Gary made many significant geological and sedimentological contributions during his brief career and we are sure that were he still alive—he would say that it is these by which he wants to be remembered.

Charles T. Siemers
Roderick W. Tillman