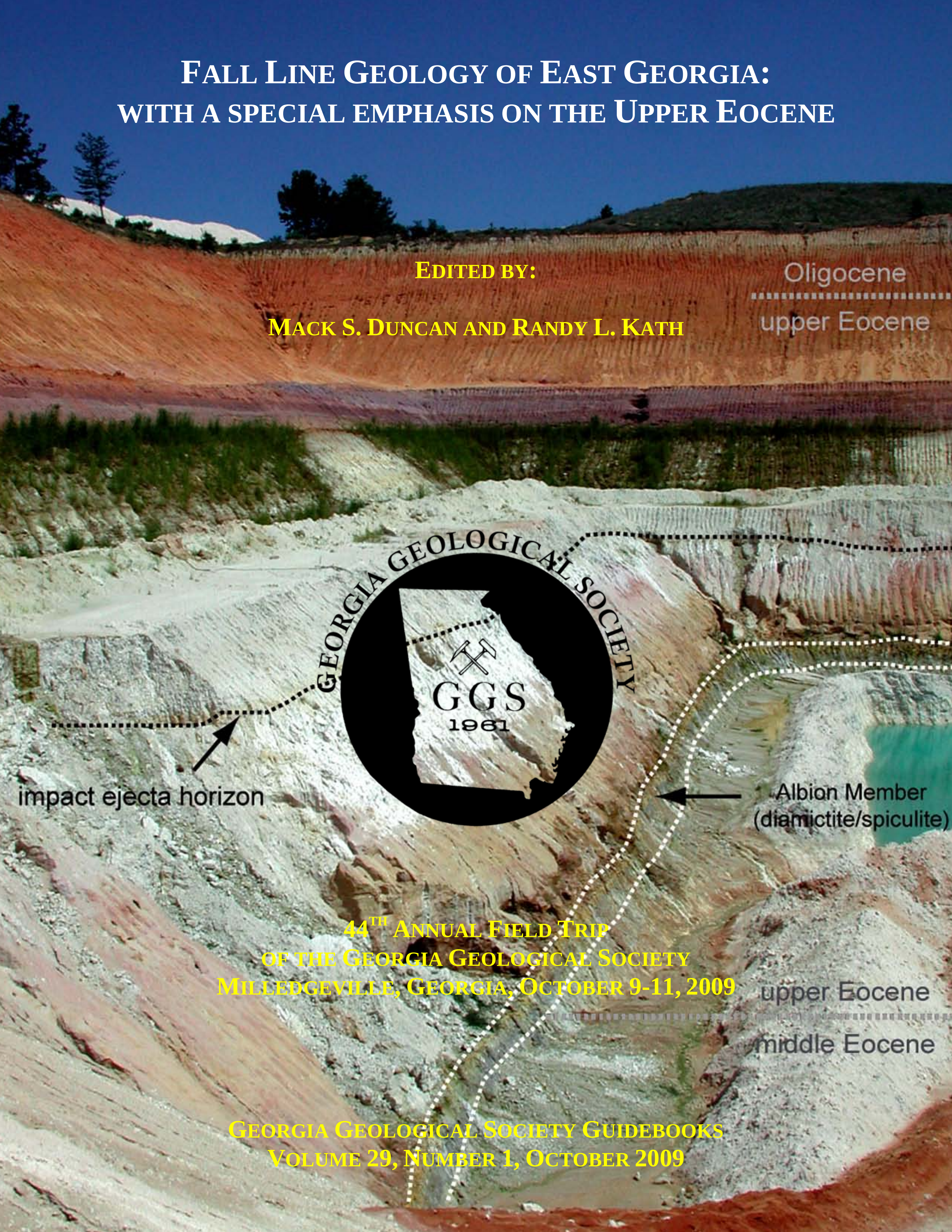
Fall Line Geology of East Georgia: with a special emphasis on the Upper Eocene

Edited by:

Mack S. Duncan and Randy L. Kath



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44th Annual Field Trip
of the Georgia Geological Society
Milledgeville, Georgia, October 9-11, 2009

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Enjoy the trip!

INTRODUCTION

Often it is two or three key outcrops that reveal the relationships necessary to unravel a geological story. Kaolin mines in the upper coastal plain from Macon, GA to Aiken, SC have offered outstanding exposures of the Upper Eocene for many decades. Unfortunately, in mining, the key outcrops may be short-lived in that they are covered or removed by subsequent mining.

In 2003 and 2004 John Allen undertook a masters study which involved the measurement and correlation of 19 stratigraphic sections within the Upper Eocene exposed in the kaolin mines. Many of the sections are no longer exposed. Most of the remaining exposures will disappear within the next several years. One goal of this year's field conference is to document the relationships described by Allen and to let his work serve as a springboard for future work. It is his study that forms the backbone for this year's Georgia Geological Society Field Trip. We will visit two mines which expose the sequence stratigraphic relationships he described.

In addition to the Upper Eocene sequence stratigraphic work summarized by John Allen, Mack Duncan and Steve Holland, we have four other papers which deal with geological investigations within the Upper Eocene. John Anderson, Cheryl Gullet-Young and Crawford Elliot present a biostratigraphic correlation of the Sandersville Limestone. Scott Harris summarizes his work on impact stratigraphy with specific attention to one of the sequence boundaries. Tony Martin discusses trace fossils and their usefulness in interpreting paleoenvironments and sequence stratigraphy. And, Matt Jarrett discusses his oxygen isotope paleoclimate research.

While we are in the fall line area, we will enjoy other geologic topics: Tim Long will discuss seismic activity in central Georgia, Robert Strange will discuss tektites and lead us on a tektite hunt, Tim Chowns will discuss the Triassic Riddleville Basin, Salome Romero will discuss the engineering geology of a dam construction project, and Pamela Gore will lead a hardrock, igneous and metamorphic stop in the Piedmont just north of the fall line.

Geology of the commercial kaolin deposits was covered in an excellent manner on our 2000 field trip. However, no trip to "the kaolin capital of the world" would be complete without some exposure to this major industry. Gil Rowland will give us an overview of kaolin mining. Harlan Archer will lead a visit to KaMin's Sandersville Production Facility to see how kaolin is processed. The paper by Bob Pruett, Jondahl Davis and Berenice Everett offers us a look at the microtextures of different types of kaolin, both unprocessed and processed.

As you can see, there is a little something in this trip for everyone.