

Acknowledgement. These investigations have been supported by the National Science Foundation under grant GA-4001 to Dr. H. G. Goodell.

References

- Cohen, C. L. D. 1964. Coccolithophorids from two Caribbean deep-sea cores. *Micropaleontology*, 10(2): 231-250.
- Geitzenauer, K. R. 1969. Coccoliths as Late Quaternary paleoclimatic indicators in the subantarctic Pacific Ocean. *Nature*, 223: 170-172.
- Hay, W. W., H. P. Mohler, P. H. Roth, R. R. Schmidt, and J. E. Boudreaux. 1967. Calcareous nannoplankton zonation of the Cenozoic of the Gulf Coast and Caribbean-Antillean area and transoceanic correlation. *Gulf Coast Association of Geological Societies. Transactions*, 17: 428-480.
- Hays, J. E. 1967. Quaternary sediments of the Antarctic Ocean. *Progress in Oceanography*, 4: 117-131.
- Kennett, J. P. In press. Pleistocene paleoclimates and foraminiferal biostratigraphy in subantarctic deep-sea cores. *Deep-Sea Research*.
- McIntyre, A. 1967. Coccoliths as paleoclimatic indicators of Pleistocene glaciation. *Science*, 158: 1314-1317.

Continuing Studies of *Eltanin* Sedimentary Cores and Dredged Rocks

N. D. WATKINS

Department of Geology
The Florida State University

In a previous report (Watkins, 1968), mention was made of paleomagnetic observations of some *Eltanin* sedimentary cores indicating hitherto undiscovered short-period reversals of the earth's magnetic field 0.82 and 1.07 million years ago. Subsequent detailed examination of cores taken during Cruises 27 through 35 have confirmed this earlier suggestion. Fig. 1 shows the results of studies made on one of these cores. The data are to be presented at a meeting of the International Association of Geomagnetism and Aeronomy in Madrid in September, 1969.

During 1969, the paleomagnetic investigations have become integrated with the micropaleontological studies of Dr. J. Kennett. It appears probable that the paleo-oceanographic history of the area south of Australia and New Zealand will become clearer through the current application of these two disciplines to the sediment cores taken during *Eltanin* Cruises 16, 26, 27, 34, and 35.

The distribution of the dredged rocks recovered during *Eltanin* Cruises 5-9, 12, and 22 in the Scotia Sea has been examined. It has been shown that the Antarctic Continent south of the Weddell Sea and the east coast of the Antarctic Peninsula are probably the major sources of the recovered materials (Watkins and Self, 1969). Since an earlier regional survey of the *Eltanin* dredges from the Pacific (Watkins

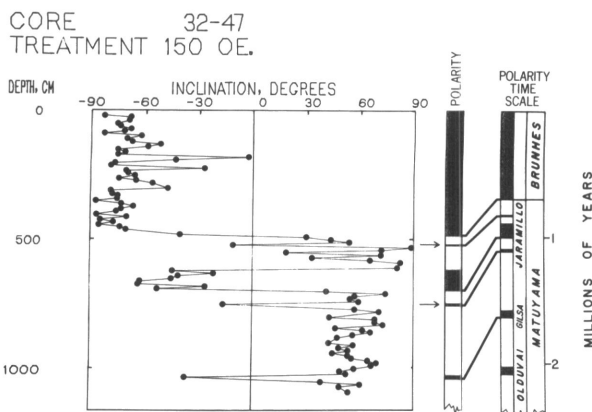


Figure 1. Inclination of remanent magnetism in specimens of core E32-47, following demagnetization at 150 oersteds. Polarity log at right; black is normal polarity (negative or upward magnetic inclination), clear is reversed (positive or downward magnetic inclination). Specimen interval 10 cm. The known polarity time scale is to the right. Added to this are the two short polarity events initially detected by examination of cores from earlier *Eltanin* cruise (Watkins, 1968). Correlation lines are included.

et al., 1968) indicated that rocks recovered during Cruises 16, 26, and 27 over the Macquarie Rise included some *in situ* materials, chemical, petrological, and magnetic analyses have been made of several of the samples, in conjunction with Dr. B. M. Gunn, University of Montreal. This research has revealed the occurrence of hartzburgites, of high intensity of magnetization, which may be relevant to the genesis of the Rise. Further analyses are intended before the data are published.

References

- Watkins, N. D. 1968. Short period geomagnetic polarity events in deep-sea sedimentary cores. *Earth and Planetary Science Letters*, 4: 341-349.
- Watkins, N. D. and R. Self. 1969. An examination of the *Eltanin*-dredged rocks from the Scotia Sea. Submitted to *Antarctic Research Series*.
- Watkins, N. D., R. Self, N. Mark, and H. G. Goodell. 1968. A description of the *Eltanin*-dredged submarine rocks from the South Pacific and Scotia Seas. *American Geophysical Union. Transactions*, 49: 214.

The Antarctic Marine Geology Research Facility

H. G. GOODELL and DENNIS S. CASSIDY

Departments of Oceanography and Geology
The Florida State University

Cores obtained during USNS *Eltanin* cruises are stored in 5,200 ft² of refrigerated storage at 2°C., the temperature of Antarctic Bottom Water, in the Antarctic Marine Geology Research Facility of Florida State University. An additional 400 ft² is refrigerated to -10°C. for storage of core cuts destined for