

## INTRODUCTION

This is the report on the compilation and interpretation of approximately 640 miles of marine magnetometer data gathered by Western Geophysical during a marine seismic survey in the eastern Bass Strait. The three areas involved are identified as PEP 63(A), PEP 63(B), and T/1P. Area PEP 63(A) is covered by north-south control tied by east-west control. Areas PEP 63(B) and T/1P have a predominate control pattern of northwest-southeast and northeast-southwest control lines with random spacing, but averaging approximately three miles.

The marine data were reduced by removing the Earth's normal field and correcting for diurnal variations. The observed field thus obtained was computed upward on a Sigma 5 computer to 1000 ft asl for comparison with the airborne survey at 1000 ft asl over the same area.

The purpose of the survey was to evaluate the effectiveness of the marine magnetometer as an exploration tool. It is the intent of this report to outline methods used in marine data reduction and to discuss the comparison of the two surveys. For a more detailed description of the area, the reader is referred to the GAPL report of January 1968. The writer also has assumed that Western Geophysical has covered the field operations.

## DATA COMPILATION

Magellan Petroleum furnished GAI-GMX with the original analog recordings of the Earth's total intensity along 48 ship's tracks and with shot point location base maps for these data. In addition, they supplied base station recordings from the Toolangi Observatory near Melbourne, Victoria, and all other field data necessary for the data reduction with the exception of the tabulated normal field values. The individual steps in the data reduction are outlined and discussed immediately below.

### Normal Field Correction

The values of the Earth's normal field were computed on the Sigma 5 computer for each minute