

Tie lines were flown along the coast, and paralleling the coast approximately midway between the coast and the edge of the continental shelf.

The magnetic data were recorded on a 300 gamma full scale chart. The ground/chart length ratio used was 0.82 miles per inch. Data quality was excellent throughout. The principal facts of the earth's magnetic field in the survey area are:

Inclination	-72°
Declination	10°E
Total Intensity	63,000 gammas

#### IV OBJECTIVE OF THE SURVEY

The purpose of the survey was to map the magnetic basement and thereby to indicate the volume of potentially productive sediments in the area; and additionally to map magnetic materials within the sedimentary section above the magnetic basement, should any anomalies indicate their presence.

The magnetic basement surface is that horizon at which materials become significantly magnetic to produce observable anomalies. Ordinarily this is an interface between relatively non-magnetic sedimentary rocks and ferromagnetic, igneous/metamorphic rocks, usually called "basement". However, "basement" to petroleum geologists identifies a surface below which rocks are no longer potentially productive. Therefore the usefulness of the aeromagnetic method in petroleum exploration depends on the correlation of the magnetic basement of the geophysicist with the economic basement of the petroleum geologist. Sediments usually have susceptibilities of less than  $30 \times 10^{-6}$  cgs whereas the metamorphic/igneous suite has values of the order of  $1000 \times 10^{-6}$  cgs. Magnetic basement in Tasmania ranges from the strongly magnetic granites and dolerites of the east coast to the weakly magnetic Cambrian and Pre-Cambrian rocks of the west coast.