

INTRODUCTION

DIGHEM^{II} surveys of 316 line-km were flown with a 150 m line-spacing for the Mount Lyell Mining and Railway Co. Ltd., from February 12 to February 17, 1982 in the Queenstown area, Tasmania (Figure 1).

The Lama VH-BQT turbine helicopter flew with an average airspeed of 105 km/h and EM bird height of 35 m. Ancillary equipment consisted of a Geometrics 803 magnetometer with its bird at an average height of 50 m, a Sperry radio altimeter, Geocam sequence camera, Barringer 8-channel hot pen analog recorder, and a Geometrics G-714 digital data acquisition system with a Kennedy 9700 9-track 800-bpi magnetic tape recorder. The analog equipment recorded four channels of EM data at approximately 900 Hz, two ambient EM noise channels (for the coaxial and coplanar receivers), and one channel each of magnetics and radio altitude. The digital equipment recorded the EM data with a sensitivity of 0.25 ppm/bit and the magnetic field to one gamma/bit.

Appendix A provides details on the data channels, their respective noise levels, and the data reduction procedure. The quoted noise levels are generally valid for wind speeds up to 35 km/h. Higher winds may cause the system to be grounded because excessive bird swinging