

14. GRAVITY SURVEYS.

A. CRADLE MOUNTAIN ROAD TRAVERSE.

(a) Aim:

A gravity survey was attempted to:

- ( i ) locate any buried granite cusps which might be greisenized and carry tin mineralization;
- ( ii ) aid geological interpretation in the complex Bismuth Creek fault zone; and
- (iii) explore areas below basalt south of the Shepherd and Murphy mine area.

(b) Method:

Pegs were placed every 25 m along the road and levelled with a dumpy level. Readings were taken beside each peg with a Soden gravity meter. Data was corrected for drift, bouguer, free-air and latitude, but not topography. The profile interpretations should therefore be kept to 250 m segments.

(c) Results:

Results are plotted on drawing TAS-78-123 A, B. Interpretations of the profiles are shown on these drawings. Data and computation sheets are on file in the Devonport office.

The profile shows a broad low order trough within the Bismuth Creek fault centred at station 2600. This is where a granite cusp can on geological grounds reasonably be expected to occur at depth.

A small one station 0.2 milligal high occurs at sta 2800; if real this feature might be related to Cambrian rock at shallow depth below sandstone.

Another small one station 0.3 milligal high occurs at sta 4475; it occurs in basalt and its cause is unknown.

There are two broad troughs in basalt, centred at sta 1800 and sta 3250. Both of these can reasonably be due to thicker basalt in pre-existing stream valleys. The southern trough is at about 500S/1450E and would correspond to the southern extension of the deep lead which cuts through the Shepherd and Murphy mine area.