

Q50N65

Q-50

RIO TINTO AUSTRALIAN EXPLORATION PTY. LIMITED
MELBOURNE, AUSTRALIA

PROJECT:— PRP/7/100

REPORT No.:— Miscellaneous.1959

59-257

GEOPHYSICAL SURVEYS IN THE
MARIPOSA AREA, TASMANIA

by

J. B. Boniwell

GEOPHYSICS

*Geophysical surveys of the Mariposa Area
by
J.B. Boniwell
20/1/59*

FILE REFERENCE:— 8D/20K

MAP REFERENCE:—

DATE:— 20/1/59

385E

5

MICROFILMED

GEOPHYSICAL SURVEYS IN THE
MARIPOSA AREA, TASMANIA

by

J.R. BoniwellPLANS

		<u>Horiz. Scale</u>
No. T.500	Mariposa Area - Electromagnetic Profiles	Approx. 1" to 400'
T.501	Mariposa Area - Gravimetric Profiles	Approx. 1" to 400'
T.502	Mariposa Area - Magnetic Profiles	Approx. 1" to 400'

GEOPHYSICAL SURVEYS IN THE
MARIPOSA AREA, TASMANIA.

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A section of the Gordon River limestones, largely under cover, on the eastern limb of a synclinal structure whose western expression is represented by the limestones of the Oceana lead-sulphide deposit, was the object of a geophysical reconnaissance.

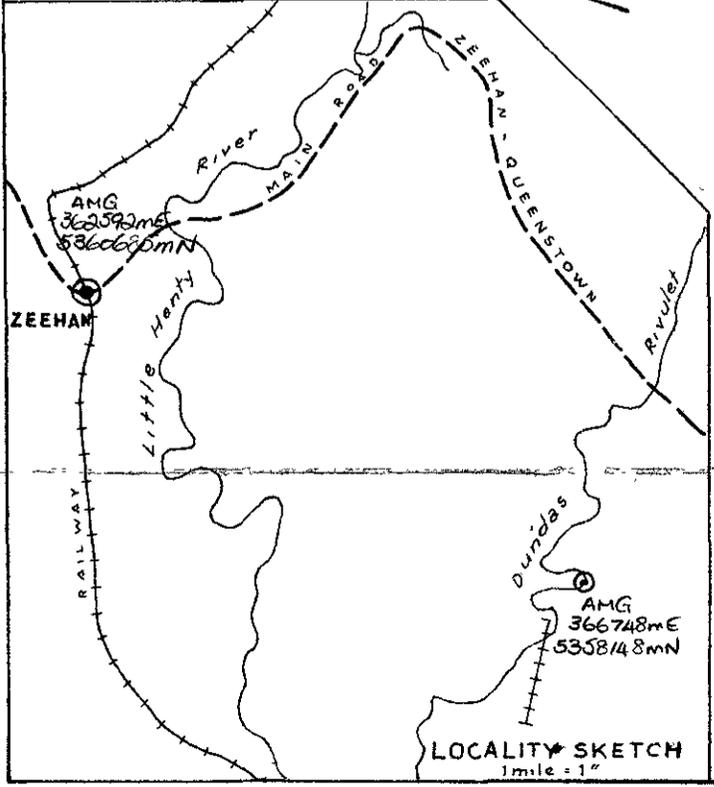
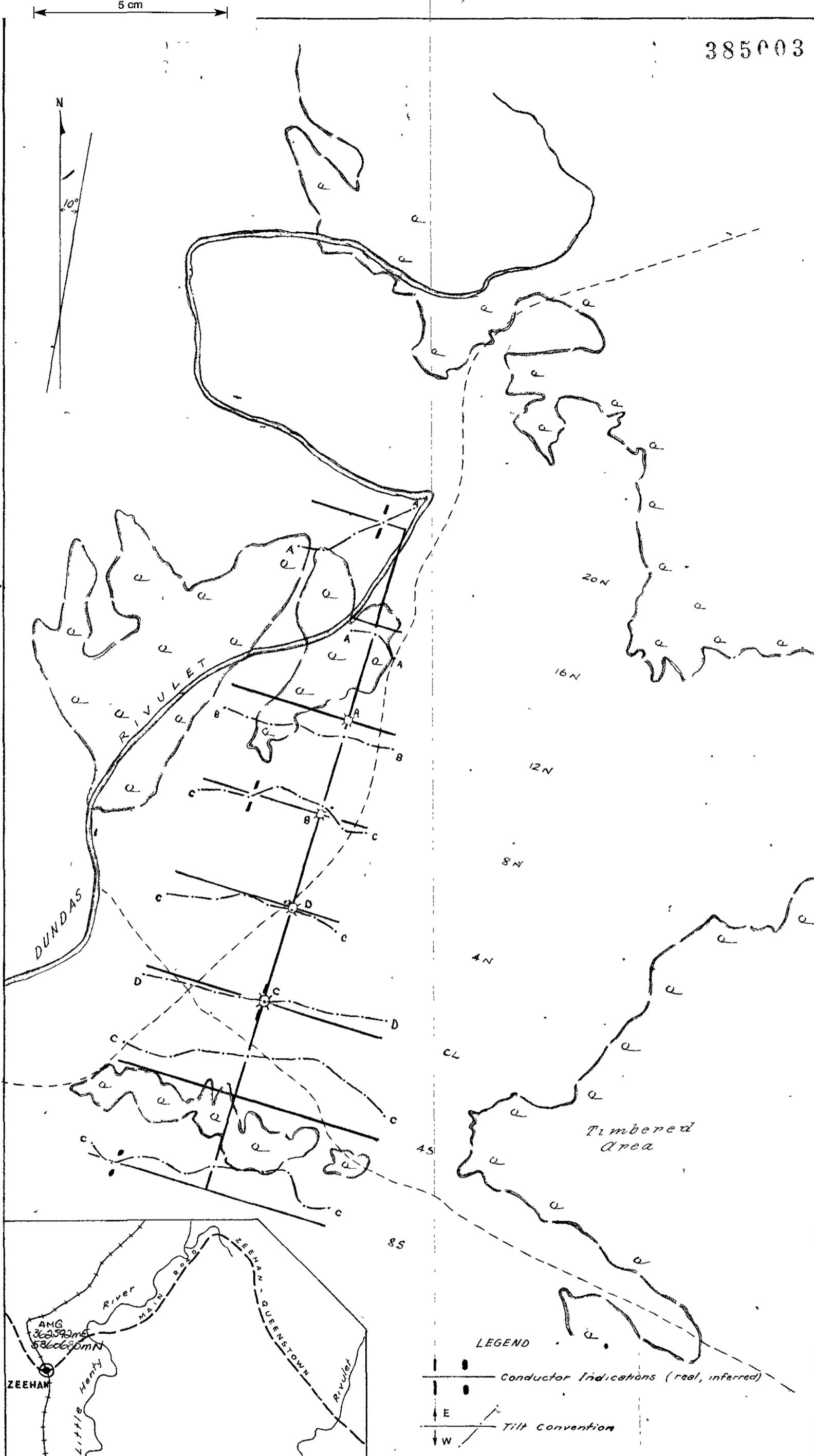
A portable 1000 cps. vertical loop unit with motor driven generator provided the primary coverage of the grid area from four transmitter locations. Gravimetric and magnetic profiling succeeded this to complete the geophysical investigation. Grid lines were at 400' intervals, and pegged at 100' stations.

The electromagnetic survey disclosed no marked electrical features. Three cross-overs were observed, but, of these, two lack quality and resolution. The third, on line 20N/4W, is thus the only indication of intrinsic merit.

The gravimeter was used in a "blanket" coverage of the grid area in an attempt to provide regional control for the short traverses in the North. Surprisingly, however, for a rock-type considered so homogeneous, the regional trends are far from uniform; and it must be assumed in consequence that the limestone beds vary in width and average thickness - doubtless, this is reflected in the behaviour of the conglomerate contact in the East - and that their basement floor is highly irregular. It is thought that the latter condition has caused some of the highly local gravity expressions observed, e.g. that positive anomalous system extending South from CL/1E to 8S/3E. Elsewhere, the occurrence of several gravity troughs forming a sinuous line from the CL to 12N may well represent an ancient river course, or courses, beneath the present river flats. The "low" at 8S/4W is the gravimetric reflection of a mass-deficient rock filling of an old railway embankment.

There is little magnetic relief in the grid area, although it is worthy of note that a 40 gamma high correlates with the electrical indication on line 20N. Some possible gravity expression furthers the possibility that mineralisation may exist at this point, but the apparent restrictions imposed by geophysical magnitudes and geological boundaries imply that the incidence can only be minor in both order and dimensions.

In view of the fore-going, it is not recommended that further geophysical investigation be undertaken purely on present indications only; however, it is recommended that a geochemical investigation of the immediate area of 20N/4W be carried out, and should it transpire that anomalous geochemical values can be had definitely identified with the electromagnetic anomaly, then definitive geophysical work should proceed.



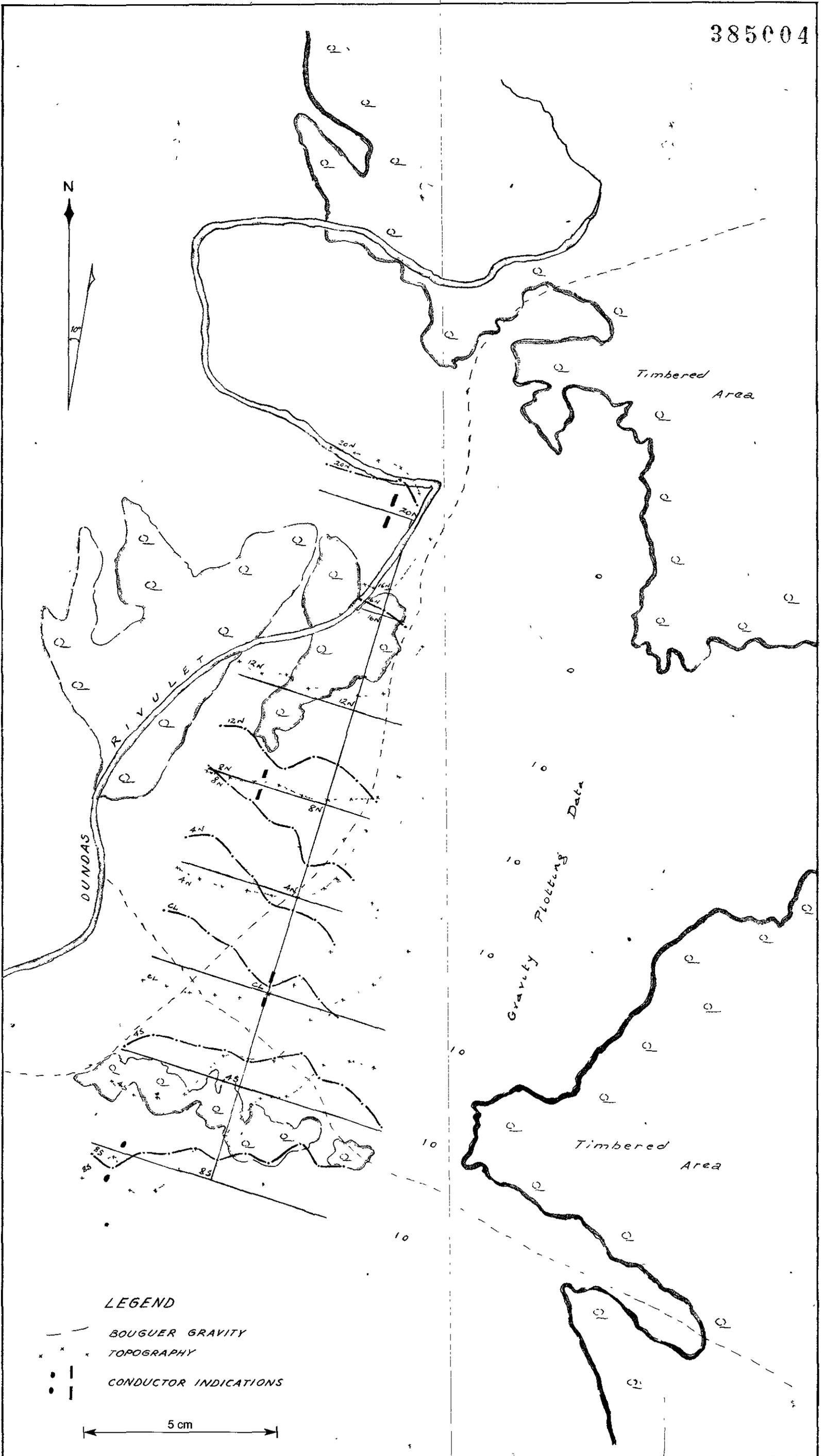
LEGEND

- Conductor Indications (real, inferred)
- ↙ ↘ Tilt Convention
- E ↓ W

Note: Area covered Photo Run 4/21600 Zeehan

RIO TINTO AUSTRALIAN EXPLORATION PTY. LIMITED	
MARIPOSA AREA	
Electromagnetic Profiles	
Scales 1 inch to 20° Plan 1 inch to 400 ft	
Date Feb 1959	Plan No T 500
Authority PRP/7/100	

AMG REFERENCE POINTS ADDED



LEGEND

- BOUGUER GRAVITY
- TOPOGRAPHY
- CONDUCTOR INDICATIONS

5 cm

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MARIPOSA AREA
GRAVIMETRIC PROFILES

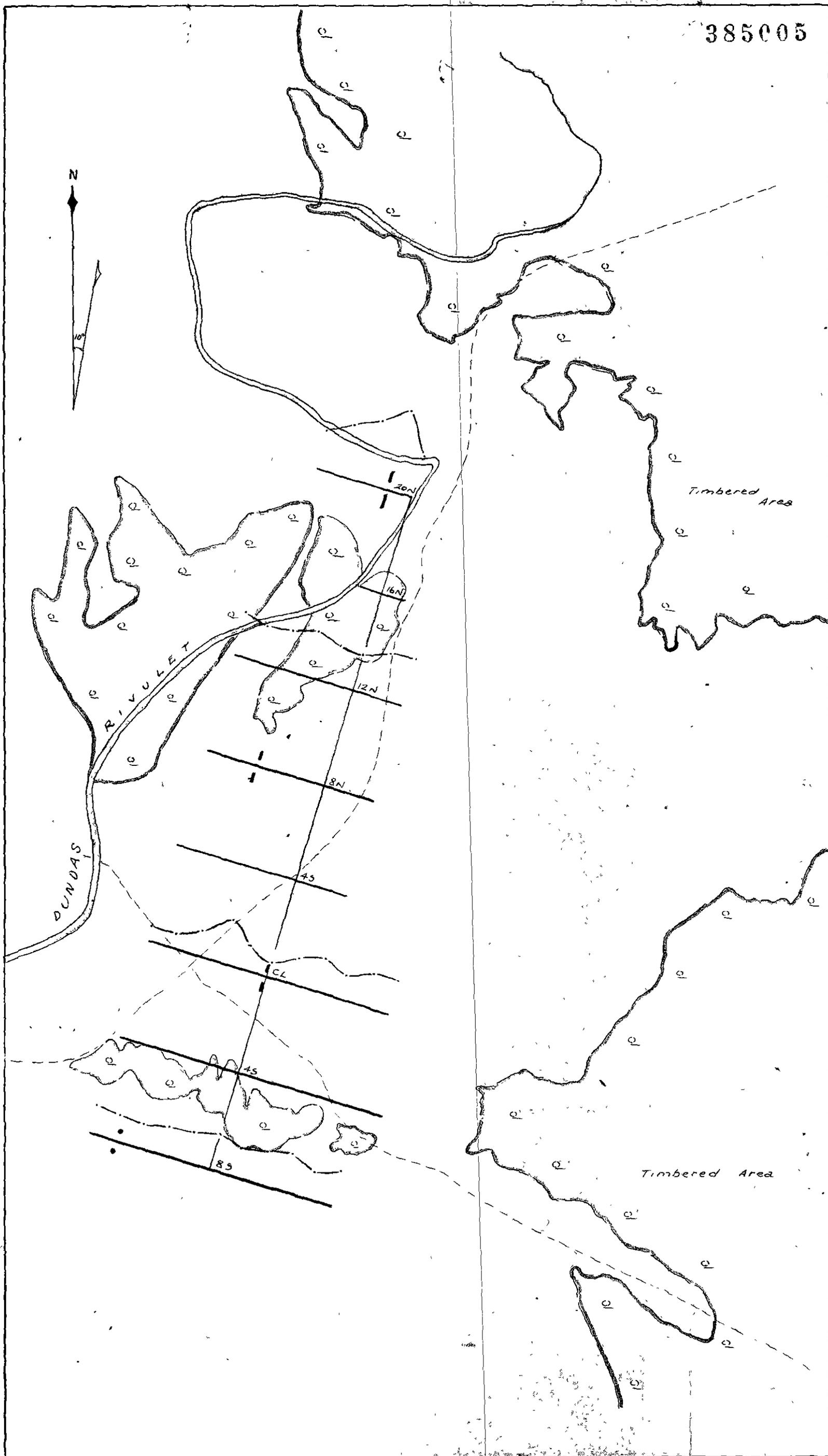
NOTE PHOTO ZEEHAN Run 4/21600

Febr. 1959

SCALES
GRAV 1" = 10 mgal
TOPOGR. 1" = 20 Feet
IN PLAN 1" = 400 feet

PRP/7/100

Plan N° T501



5 cm

NOTE PHOTO ZEEHAN RUN 4/21600

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**MARIPOSA AREA
MAGNETIC PROFILES**

Febr 1959

SCALES
1 inch = 100 yards
In Plan 1 inch = 400 Feet

PRP/7/100

Plan N°T502