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COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF NATIONAL DEVELOPMENT
BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS

RECORDS 1953 No. 77

DISCUSSION OF GRAVITY RESULTS, EAST GIPPSLAND, VICTORIA

by

J. C. DOOLEY and J. M. MULDER

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CONTENTS

ILLUSTRATIONS

Note : The original tracing of Plate 10 has been destroyed. However, gravity contours in the Darriman area are shown in Bureau Report No. 19, Plate 2.

1. INTRODUCTION

Early in 1949, an extensive gravity survey was carried out between Sale and Orbost by R.H. Ray Co., U.S.A. for Lakes Oil Ltd. (Ray, 1949). The results of this survey were assessed by Professors Hills (1950) and Rudd (1950), Geological Consultants to Lakes Oil Ltd. As a result of their recommendations, supported by the Victorian Geological Survey, the Bureau of Mineral Resources was requested to carry out further geophysical work in the area.

The work carried out by the Bureau includes gravity, seismic, and aeromagnetic surveys. In this record it is proposed to discuss the interpretation of the gravity results. As the Bureau's gravity work is complementary to the Ray Co. survey, the results of both surveys have been combined.

The gravity work carried out by the Bureau was intended to provide more detail in some areas not fully covered by the Ray Co. survey, and to extend the margins of the survey on to the basement at the north, and along the coast on the south-east side. Most of the Bureau's work was in areas of difficult access, in swampy or sandy country. The following areas were covered.

(1) The coastal area, between Lake Reeve and the sea.

(2) Along the shores of Lake Wellington and adjacent areas.

(3) To the south-west of Lake Wellington, to define the end of the Baragwanath anticline more closely.

(4) In several areas west of Bairnsdale and north of Holland's Landing, to provide more detail on anomalies revealed by the Ray Co. survey.

(5) To provide more detail on an anomaly near Giffard in the south-western part of the area.

(6) Along several traverses northwards into the highlands.

Levelling was carried out by dumpy level, by stadia traverse, or by reference to water level in Lake Wellington. In the extension of the survey northwards into the highlands, where less accuracy was required, the levelling was carried out by barometric methods. Positions were fixed by identification on aerial photographs, military maps, or Land Department maps. In some places, stadia traverses were run between known points.

2. INTERPRETATION OF GRAVITY RESULTS

Elevation Corrections.

Different elevation correction factors were applied for different parts of the area. On the Gippsland Plains, a factor of .0695 mg/ft (corresponding to a density of 1.91) was adopted, being the same factor as R. H. Ray Co. used.

Density tests were made on samples of basement rocks collected in the highlands, with the following results :-

Shale	2.63
Limestone	2.69
Slate	2.61
Granite	2.64
Sandstone	2.42

An average density of 2.6 was assumed for the surface rocks, giving an elevation correction factor of .0609 mg/ft. Along the fringe of the highlands an intermediate density of 2.3 was adopted, giving a factor of 0.0647 mg/ft.

The Bouguer Anomaly.

Plate 2 shows the Bouguer anomaly over the investigated area in East Gippsland. This map is compiled chiefly from the survey by the R. H. Ray Co., and incorporates the additional work carried out by the Bureau of Mineral Resources.

Plates 3, 4 and 5 show the Bouguer anomalies over an area in the highlands adjacent to the plains in East Gippsland.

Except for local disturbances the Bouguer anomaly map shows a gradual deepening of the basement rock in a southward direction. The Baragwanath anticline and the Latrobe syncline form two prominent features at the western edge of the area south of Sale. The additional gravity work shows that the Baragwanath anticline cuts out south-west of Lake Wellington. A cross section A-A_1 (Fig. 1) has been constructed on the basis of the Bouguer anomaly. This cross section shows a throw of the Rosedale fault of approximately 2,000 feet, assuming a density contrast between Tertiary sediments and Jurassic rocks of 0.5.

North of Lake Wellington the gravity contours are disturbed by features striking approximately north-south. These features may be caused by a change in the basement surface level or by changes of rock types within the basement.

Gravity contours show a high feature between Dulungalong No. 1 and Giffard No. 14 bores. An estimate of the thickness of the Tertiary deposits here can be made on the basis of the regional variation of the Bouguer anomalies. These anomalies show a decrease in value of 25 milligals from the edge of the highlands where the basement crops out, possibly corresponding to 5,000-6,000 feet of Tertiary deposits.

The high feature in the south-western corner of the area between Woodside No. 5 and Darriman No. 4 bores may represent a structure with a depth at its centre of about 8,000 feet. This figure is probably too high and a better estimate is made in one of the next sections.

The two high features west of Bairnsdale are considered to be of little significance because of the relatively shallow basement in this district, which most likely is between 1,000 and 1,200 feet deep. The estimated depth agrees with that of the Lakes Entrance area, where features of the same magnitude are known to correspond with a maximum depth of approximately 1,500 feet.

The existence of a synclinal structure is suggested by the gravity contours east of Lakes Entrance in the Lake Tyers area. A 2,000 feet drop in the level of the basement with respect to the Lakes Entrance field may be predicted on the basis of the Bouguer anomalies; however, samples from some bores in the district indicate

that a metamorphic rock overlies or takes the place of the granite which forms the basement at Lakes Entrance. Anomalies are probably associated with the change in density between the two types of basement rock and a reliable estimate of basement depth is therefore impossible.

Gravity Correlation with Bore Data.

It is important to know whether a relation exists between the depth of the basement known from bore logs, and the Bouguer anomaly over these bores; if so, it may be possible to estimate the basement depth at any point from the gravity anomaly.

Such a relation does not exist for the entire East Gippsland area. However, some results were obtained when this area is divided into two separate districts :-

1. The south-western corner of the survey, south of the Latrobe syncline - Only three boreholes penetrated through the Tertiary sediments into the Jurassic rocks; thus, the correlation curve which is based on these bores is probably unreliable. This curve (see Fig. 2, curve A) indicates the depth of the basement for a given anomaly, with a standard deviation of 607 feet, and also gives the density contrast between Tertiary sediments and the Jurassic rocks. This appears to be :-

$$d_c = 0.34$$

The value for g_o or the Bouguer anomaly for the Jurassic rocks at zero depth in this district is - 20.6 milligals.

2. The remaining part of East Gippsland, where bores have penetrated into the basement - Only a small number of bores is available in this area, and of these the ones around Lakes Entrance are mostly about the same depth (see Fig. 2, curve B). The correlation therefore, might be accidental and unreliable in spite of a correlation factor of 0.94. The curve indicates a depth to the basement for a given anomaly with a standard deviation of 378 feet. The density contrast between the sediments and the basement, derived from this curve is :-

$$d_c = 0.58$$

which is probably too high. The value for g_o or the Bouguer anomaly for the basement at zero depth in this area is + 7.4 milligals.

The 28 milligals discrepancy in the two values for g_o may probably be regarded as a regional anomaly, associated with the Rosedale Fault.

The fact that some degree of correlation exists between the Bouguer anomaly and depth to basement suggests that it may be possible to eliminate a regional effect from the Bouguer anomaly by using the available bore information, and thus to draw a contour plan which may correspond to the variations in thickness of the Tertiary sediments.

Regional Anomaly.

The contour plan of the regional anomaly has been drawn in Plate 7. This is an attempt to eliminate the anomaly due to the Tertiary sediments, and to draw contours representing the gravity

variation within the basement. (For the purpose of this map, basement is taken to include Jurassic and all older sediments.) Thus, in effect, the regional anomaly is obtained by replacing the Tertiary rocks by basement.

Points at which the regional anomaly can be calculated include basement outcrops, where the Bouguer anomaly is identical with the regional anomaly, and bores which reached basement, at which the anomaly due to Tertiary sediments was calculated assuming a density contrast of 0.3 between the Tertiary and basement. This anomaly was added to the Bouguer anomaly to give the regional anomaly. Some bores which did not reach basement were used as they give a minimum value for the regional anomaly. These are indicated on Plates 7 and 9 by a + sign placed after the figure at the station.

Plate 7 shows the regional basement anomalies in East Gippsland constructed as described above. An area between Lakes Entrance and Orbost has not been contoured because control points do not exist here; a continuation of the contouring on the trend of the anomalies as found in the western area would be too hypothetical. The regional anomalies, as far as they have been constructed, show a reversal in trend near Lake Wellington. However, there is some doubt whether this reversal persists to the south-west. The increase in gravity to the south-west is based on the evidence of two bores only. These are both close to the eastern end of the Baragwanath anticline, and no control is available to show definitely the trend of the regional anomaly south of the anticline.

The Residual Anomaly Map for the Tertiary Formations.

Plate 8 shows the Bouguer anomalies in East Gippsland re-drawn on a scale of 4 miles to 1 inch. Stations at 5-mile intervals have been plotted so that local anomalies are not shown. The contours and station values on this plate corrected for the values found in the corresponding places on Plate 7 give the residual gravity values associated with the Tertiary formations only. These residual anomalies are shown on Plate 9. This plate may be seen as a contour map for the top of the basement (Jurassic or older) because of the relation which exists between the gravity and the thickness of the Tertiary sediments (see Fig. 3). Assuming a density contrast between Tertiary and basement of 0.3, the 5 milligal contours should represent depth intervals of about 1,300 feet.

The residual anomaly thus reveals :-

(a) A trough in the basement, situated south of Lake Wellington. Its maximum depth is estimated from the curve as 5,000 feet.

(b) The Baragwanath anticline seems to extend a little further to the east than is evident from the Bouguer anomaly map. Its axis shows a dip of approximately 5° in a north-easterly direction.

(c) Little information for the south-western corner of the area.

(d) A very shallow basement not deeper than 1,000 feet is assumed in the area south of Mount Lookout and west of Bairnsdale where the Bouguer anomaly map (Plate 2) shows two high features.

(e) A deep low on the western edge of the area which may be the eastern end of the Latrobe syncline.

Second Derivative Map.

A map (see Plate 6) has been constructed showing the second vertical derivative of gravity. The method used is described by Elkins (1951). The second derivative map tends to emphasize the shallower and more local features and eliminates regional trends; thus, this map will indicate the location of local features disturbing the gravity pattern.

The final appearance of Plate 6 is somewhat similar to a residual gravity map obtained by other means (see R. Ray's report, 1949). The high and low points may be indications of the fluctuations in the basement where this is of shallow depth, or of changes in density within this basement rock. Alternatively, they can be brought about by changes in density or local structures within the Tertiary formations. If it is assumed, however, that the densities within the Tertiary strata remain fairly constant, then this map may aid in obtaining a picture of the substratum.

The Baragwanath anticline south of Sale is indicated on the map. The trend of the ridge is uncertain and it seems to fade out towards Lake Wellington.

The low feature north of Lake Wellington may be a region where the basement is deeper than in the adjoining areas.

Near Bairnsdale the dotted line drawn through a series of high points may indicate the presence of a ridge. Similar ridges may also be present in the Lakes Entrance area in places likewise indicated.

Features of Interest

A high gravity trend through the vicinity of Meerlieu No. 1 and Yeerung No. 1 bores culminates on the north shore of Lake Wellington, east of the Perry River. This feature is associated with an aeromagnetic high anomaly which is displaced slightly from it. From Plate 9, the estimated depth of basement here is about 3,500 feet. A seismic survey over this feature (Vale, 1952) did not reveal any structure associated with this anomaly. The anomaly is therefore probably associated with a variation in basement rock type.

A gravity feature near Signal Hill shows a reversal of regional dip approaching the coast, and thus closure of the contours off-shore is probable. The estimated depth to basement here (Plate 9) is of the order of 5,000 feet. This anomaly is perhaps the most promising possible oil-trap, and seismic investigation is recommended.

A high "nosing" of gravity values occurs near Woodside at the south-eastern corner of the area covered. Further detailed work has been done on this anomaly and it is shown on Plate 10, which includes portion of the Gippsland brown coal gravity survey. It will be noticed that a number of similar features occur further westwards. They appear to represent a series of uplifted wedges caused by the intersection of two series of features which may be faults or monoclines; one series strikes approximately east-west, the other series strikes northeast-southwest. In fact, the Baragwanath anticline appears to represent a similar wedge on a larger scale.

Whether the Woodside anomaly represents a possible oil-trap depends on the stratigraphy in this area. Plate 9 indicates that the basement may be rising to the south in this area, with a comparatively thin Tertiary section near the anomaly. However, as explained above, there is no real control for the regional anomaly in this part of the area. A refraction seismic traverse might help to clarify this point. It is important also to know whether the Anglesean here contains marine sediments or whether it is mainly freshwater, as in the Latrobe Valley. This anomaly may well be of more interest from the point of view of brown coal than of oil.

Detailed surveys were carried out to define more closely two high features to the west of Bairnsdale. The depth of the basement in this area is estimated 1,000 to 1,200 feet. Because of the relatively thin Tertiary section, these features are considered less favourable as possible oil-traps. It is expected that seismic reflections would probably not be recorded here as the basement would be too shallow.

3. CONCLUSIONS

Anomalies which have been found in areas where the basement is at shallow depth do not warrant further investigation at present because it is improbable that oil deposits of any significance exist in such places.

A favourable gravity feature east of the Perry River alomg the edge of Lake Wellington was tested by a seismic survey. However, no structure in Tertiary sediments or in the basement rocks was disclosed (Vale, 1952).

Two high gravity features, both in the south-western corner of the East Gippsland area (see Plate 2) deserve consideration for a further geophysical investigation. One anomaly is situated between Woodside No. 5 and 6 bores and Darriman No. 4 bore. The estimated depth to the Jurassic basement rocks at the centre of this body is between 2,800-3,000 feet. The other anomaly is situated between Signal Hill bore and Dulungalong No. 1 bore. This feature is in an area where the basement depth is estimatedat about 5000 feet. These depth estimates are not very reliable.

It is recommended that a seismic reflection and refraction survey be carried out to test whether a structure exists in the basement or in the Tertiary sediments in these areas and to obtain a more reliable check on the depth to the basement. No further gravity work is recommended at present.

Until these anomalies have been investigated no further drilling in the East Gippsland area is recommended.

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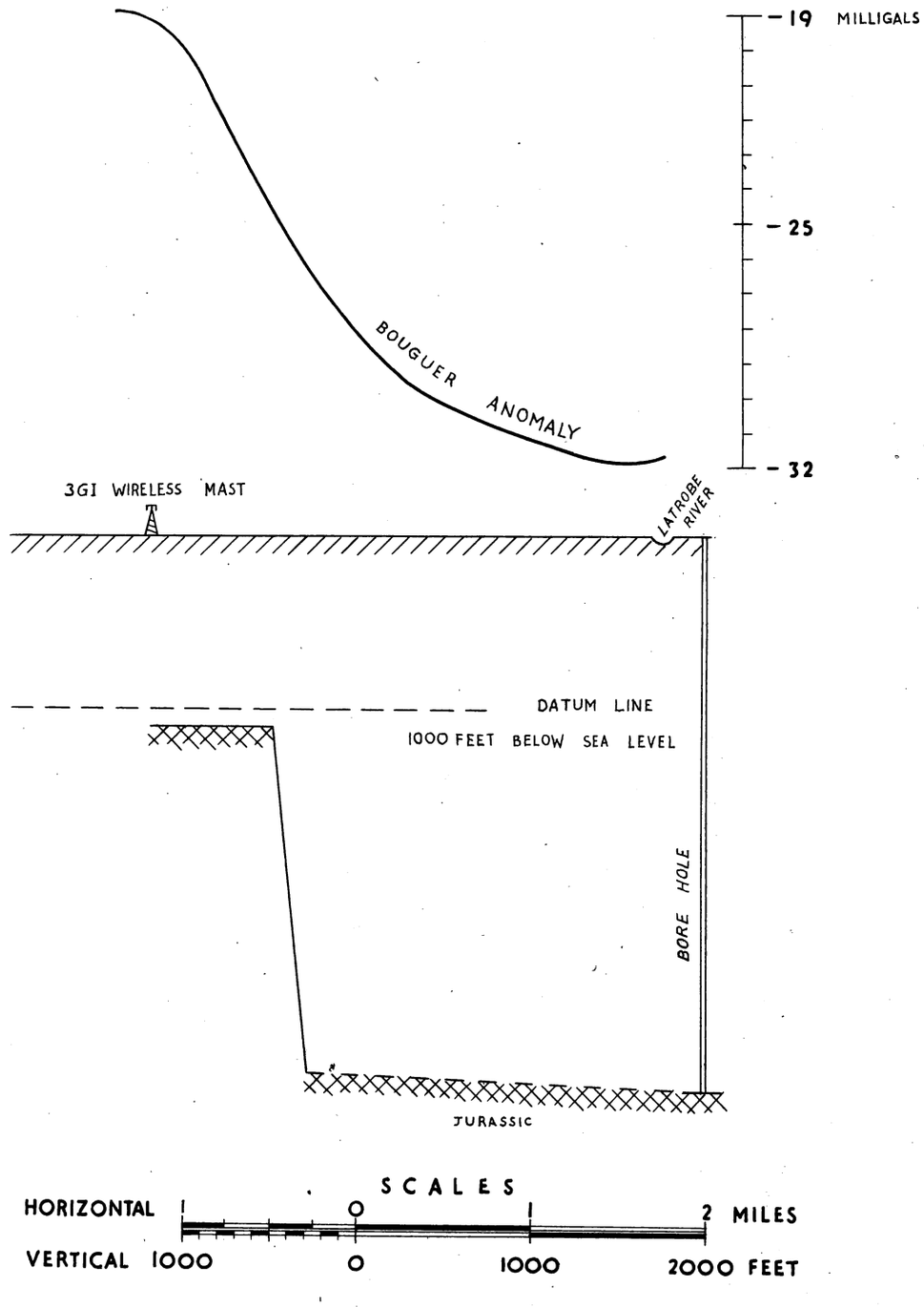

GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

FIG.1, ROSEDALE FAULT, SECTION A–A_1

GEOPHYSICIST: J. Mulds.

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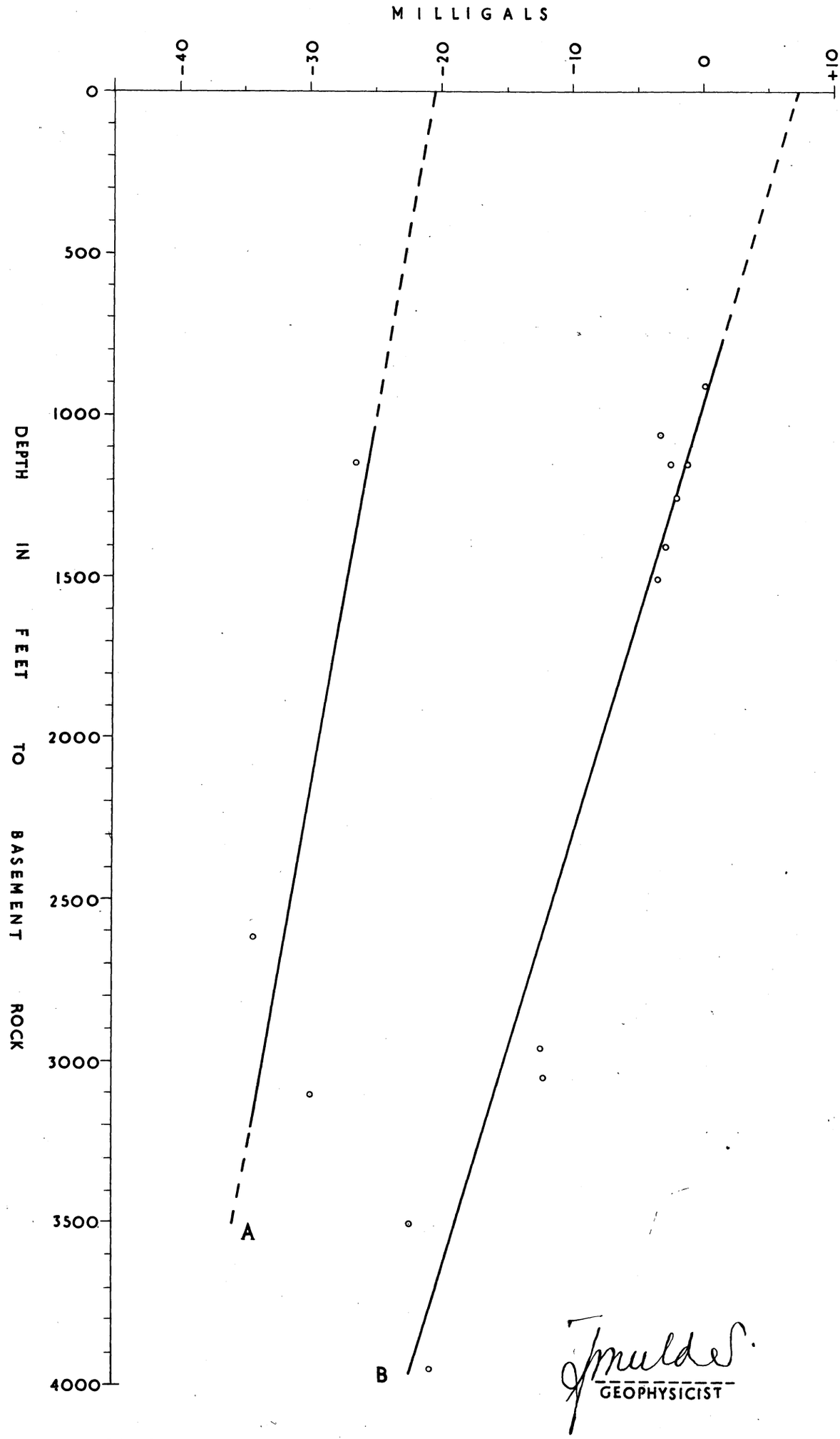
FIG. 2



GEOPHYSICIST

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FIG. 2, CORRELATION BETWEEN GRAVITY AND BASEMENT DEPTH

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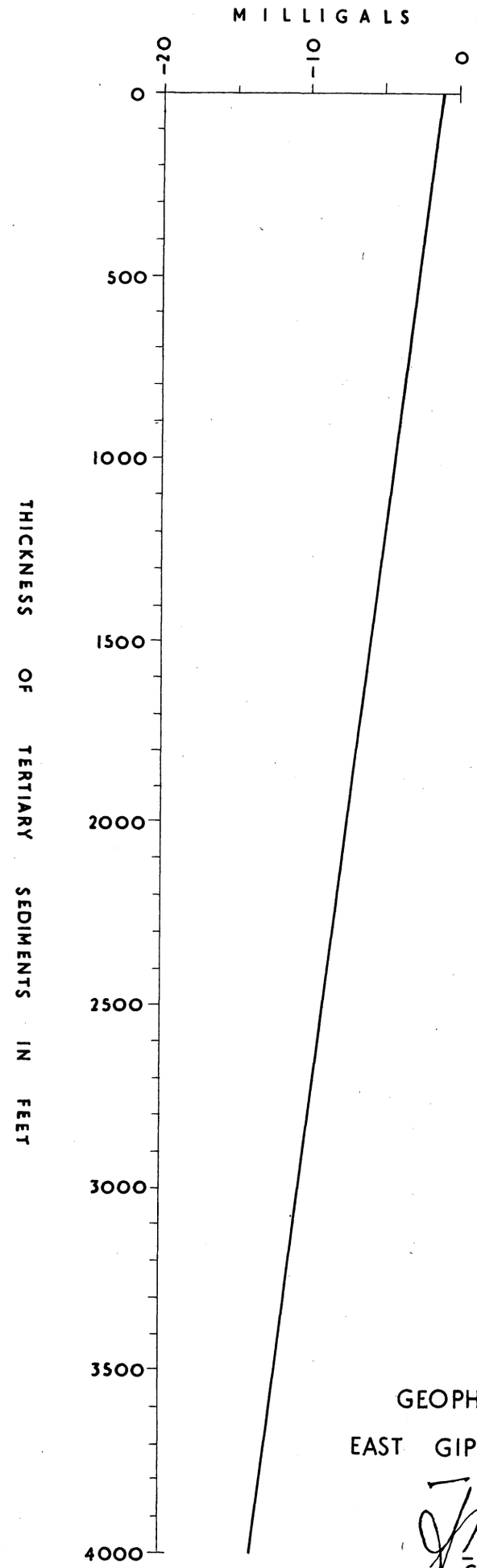
FIG. 3



GEOPHYSICAL SURVEY,
EAST GIPPSLAND, VICTORIA

J. Mulds
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FIG. 3, CORRELATION BETWEEN RESIDUAL GRAVITY AND THICKNESS OF TERTIARY SEDIMENTS

G 93 – 21

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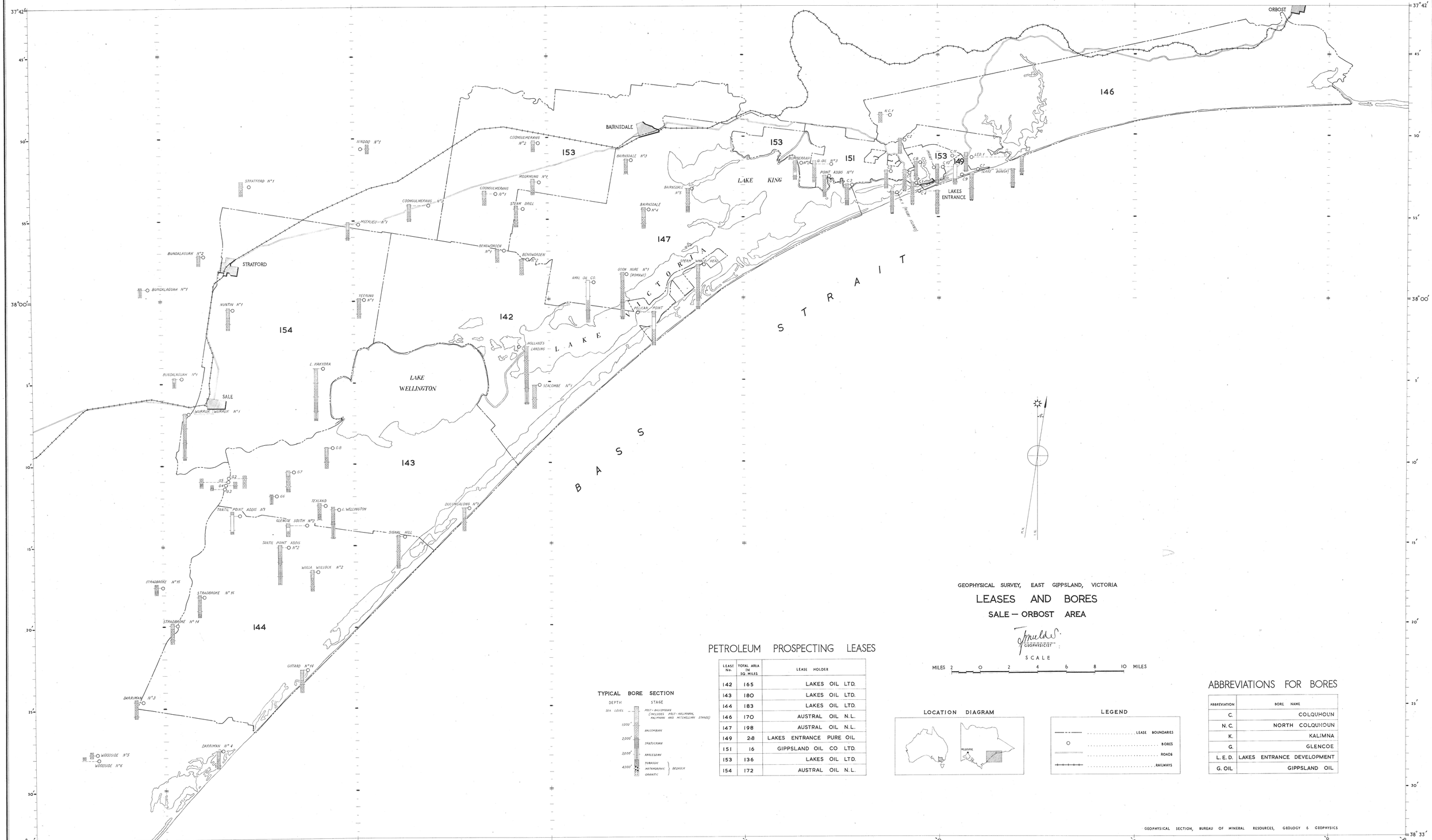
PLATE 1



GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

LEASES AND BORES

SALE — ORBOST AREA

J. Mulder
GEOPHYSICIST

SCALE

MILES 2 0 2 4 6 8 10 MILES

TYPICAL BORE SECTION

PETROLEUM PROSPECTING LEASES

LEASE No.	TOTAL AREA IN SQ. MILES	LEASE HOLDER
142	165	LAKES OIL LTD.
143	180	LAKES OIL LTD.
144	183	LAKES OIL LTD.
146	170	AUSTRAL OIL N.L.
147	198	AUSTRAL OIL N.L.
149	28	LAKES ENTRANCE PURE OIL
151	16	GIPPSLAND OIL CO LTD.
153	136	LAKES OIL LTD.
154	172	AUSTRAL OIL N.L.

LOCATION DIAGRAM

LEGEND

LEASE BOUNDARIES
BORES
ROADS
RAILWAYS

ABBREVIATIONS FOR BORES

ABBREVIATION	BORE NAME
C.	COLQUHOUN
N. C.	NORTH COLQUHOUN
K.	KALIMNA
G.	GLENCOE
L. E. D.	LAKES ENTRANCE DEVELOPMENT
G. OIL	GIPPSLAND OIL

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G 93 — 10

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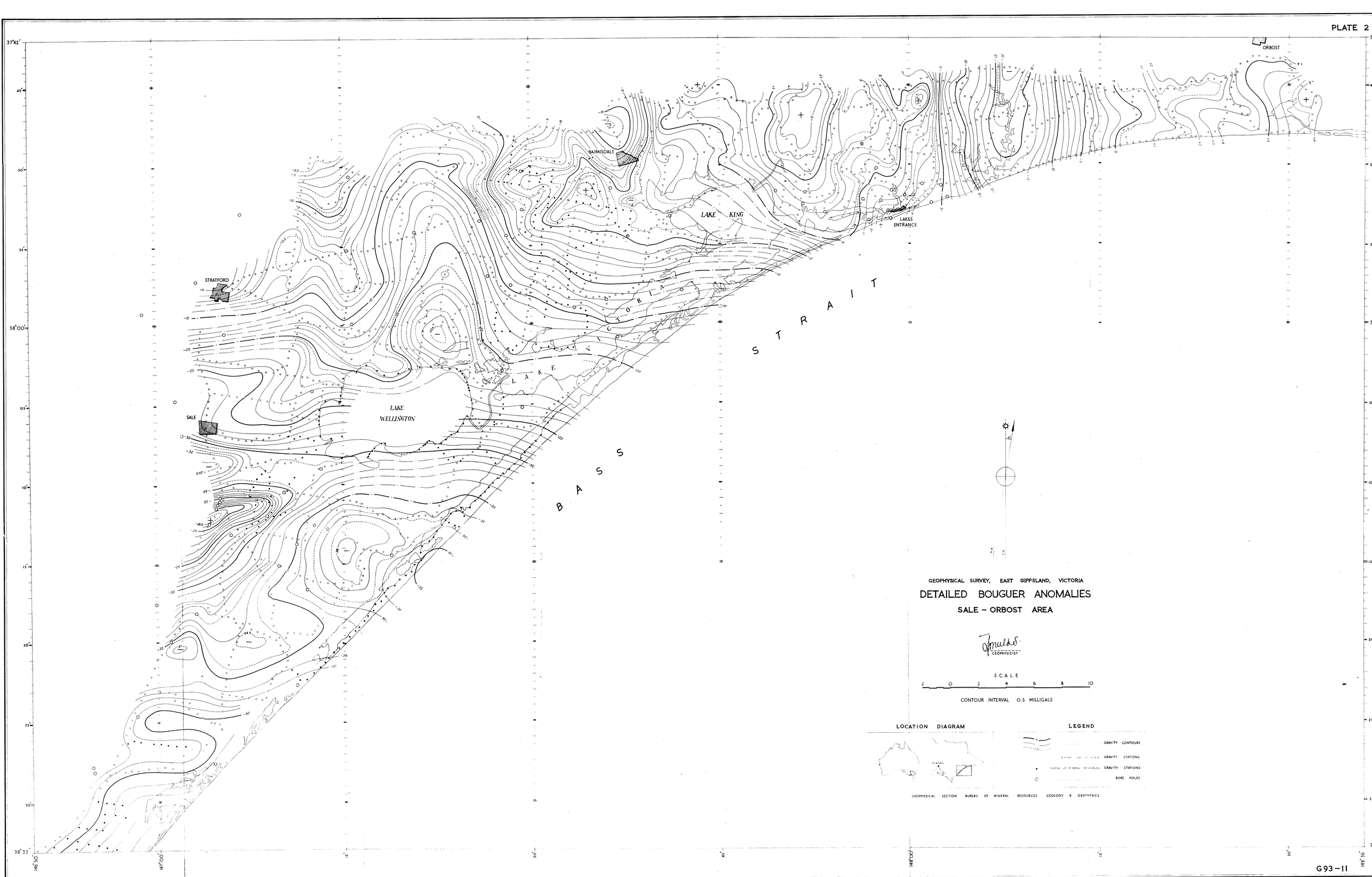
PLATE 2



GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

DETAILED BOUGUER ANOMALIES

SALE – ORBOST AREA

GEOPHYSICIST

SCALE

2 0 2 4 6 8 10

CONTOUR INTERVAL 0.5 MILLIGALS

LOCATION DIAGRAM

LEGEND

GRAVITY CONTOURS

BMR GRAVITY STATIONS

BUREAU OF MINERAL RESOURCES GRAVITY STATIONS

BORE HOLES

GEOPHYSICAL SECTION BUREAU OF MINERAL RESOURCES GEOLOGY & GEOPHYSICS

G93–11

PLATE 3

37°30′

35′

40′

45′

50′

55′

38°00′

147°00′

15′

30′

147°45′

CASTLE HILL

MORRIS PEAK

SUGARLOAF TOWER

MT TAYLOR

MT LOOKOUT

BAIRNSDALE

STRATFORD

LAKE KING

LAKE VICTORIA

BASS STRAIT

CONTOUR INTERVAL 2.5 MILLIGALS

SCALE

MILES 2 0 2 4 6 8 MILES

FOR ABSOLUTE GRAVITY VALUES SUBTRACT 321 MILLIGALS FROM STATION AND CONTOUR VALUES SHOWN

SHEET 1

LOCATION DIAGRAM

MELBOURNE

LEGEND

5 — 25 ..... GRAVITY CONTOURS

..... GRAVITY STATIONS

..... TRIG. STATIONS

GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

BOUGUER ANOMALIES

STRATFORD – BAIRNSDALE – DARGO AREA

J Mulds

GEOPHYSICIST

G 93–12

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PLATE 4

37°30′

35′

40′

45′

50′

55′

38°00′

147°45′

148°00′

15′

148°36′

M^T TARA

M^T NOWA NOWA

ORBOST

LAKE KING

LAKES ENTRANCE

S T R A I T

B A S S

CONTOUR INTERVAL 2.5 MILLIGALS

SCALE

MILES 2 0 2 4 6 8 MILES

FOR ABSOLUTE GRAVITY VALUES SUBTRACT 321 MILLIGALS FROM STATION AND CONTOUR VALUES SHOWN

LOCATION DIAGRAM

MELBOURNE

LEGEND

5 — 2.5 ..... GRAVITY CONTOURS

..... GRAVITY STATIONS

..... TRIG. STATIONS

SHEET 2

GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

BOUGUER ANOMALIES

BRUTHEN — ORBOST AREA

GEOPHYSICIST

G 93-13

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PLATE 5

37°00′

5′

10′

15′

20′

25′

37°30′

147°45′

148°00′

15′

148°30′

299.44 ● 2462

299.59 ○ 2481

301.40 ○ 2486

300.43 ○ 2479

301.68 ● 2476

300.84 ○ 2477

304.37 ○ 2476

300

302.5

305

279.49 ● 2500

280

280.84 ○ 2493

282.5

282.71 ● 2498

284.13 ○ 2497

285

Mt ELIZABETH N°2

Mt Mc LEOD

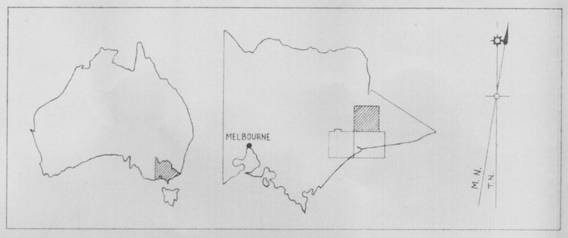
CONTOUR INTERVAL 2.5 MILLIGALS

SCALE

MILES 2 0 2 4 6 8 MILES

FOR ABSOLUTE GRAVITY VALUES SUBTRACT 321 MILLIGALS FROM STATION AND CONTOUR VALUES SHOWN

LOCATION DIAGRAM



SHEET 3

GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

BOUGUER ANOMALIES

ENSAY — BUCHAN AREA

J. Mulds

GEOPHYSICIST

LEGEND

5 — 2.5 . . . . . GRAVITY CONTOURS

. . . . . GRAVITY STATIONS

. . . . . TRIG. STATIONS

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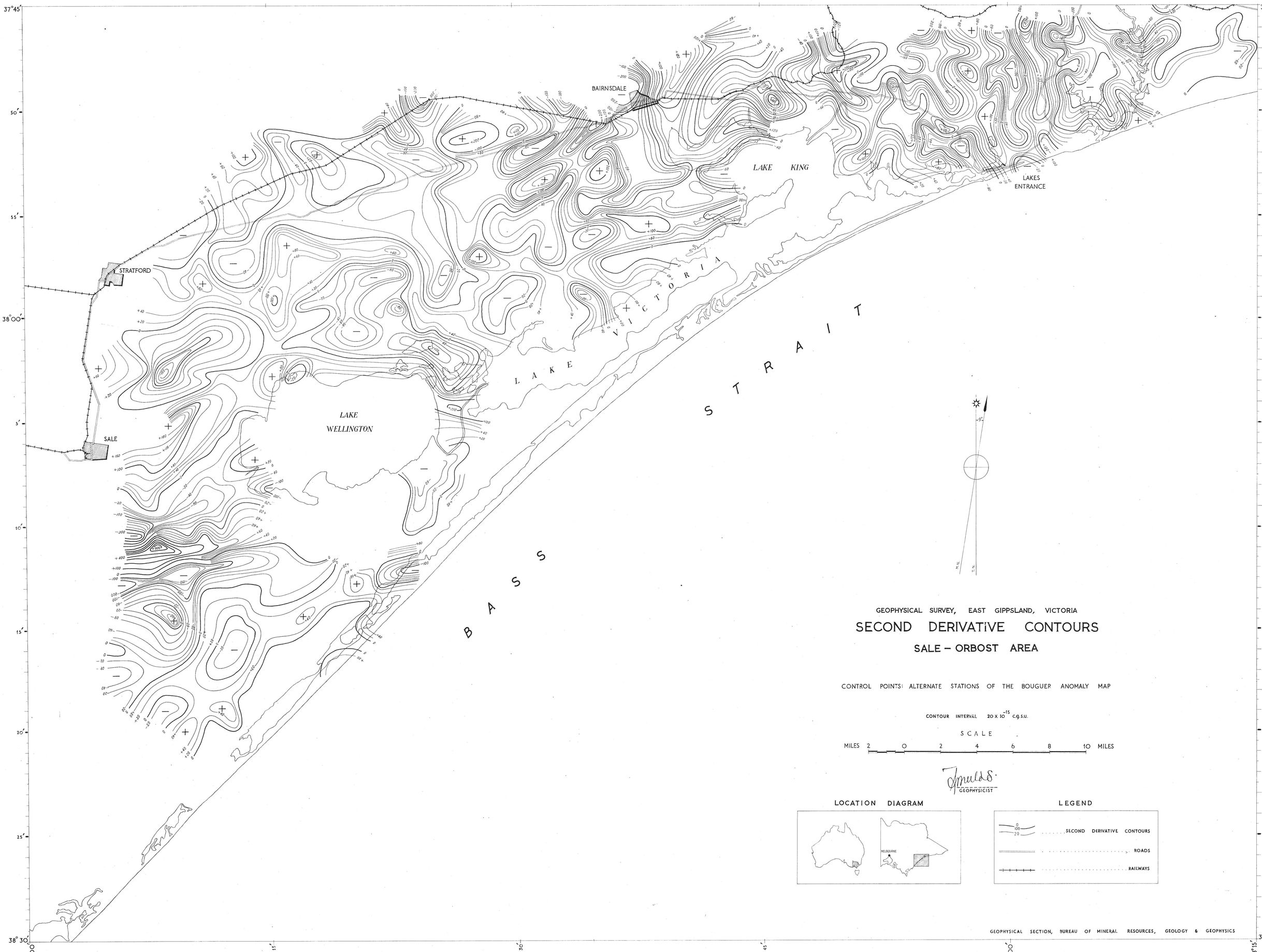
PLATE 6



GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

SECOND DERIVATIVE CONTOURS

SALE – ORBOST AREA

CONTROL POINTS: ALTERNATE STATIONS OF THE BOUGUER ANOMALY MAP

CONTOUR INTERVAL 20×10^{-15} c.g.s.u.

SCALE

MILES 2 0 2 4 6 8 10 MILES

GEOPHYSICIST

LOCATION DIAGRAM

LEGEND

- 0 / 100 / 20 ..... SECOND DERIVATIVE CONTOURS
- ..... ROADS
- ..... RAILWAYS

GEOPHYSICAL SECTION, BUREAU OF MINERAL RESOURCES, GEOLOGY & GEOPHYSICS

G 93 – 15

To Accompany Record No 1953/77

PLATE 7

37°20′ 37°20′

MT. Mc LEOD

MT. ELIZABETH II

MT. TARA

MT. NOWA NOWA

MT. TAYLOR

MT. LOOKOUT

LAKE KING

LAKE VICTORIA

LAKE WELLINGTON

TRANSITION BASS STRAIT

300 305 310 315 320 325

301.74 2365 · 309.44 16.37 · 301.83 2393 · 313.27 2447 · 318.74 2460 · 323.95 2457 · 324.60 1031 · 326.56 694 · 327 · 327 · 319 · 319 · 308+ · 310 · 316 · 304 · 298 · 297 · 299+0 · 291+ · 295+ · 290+ · 287+

38°30′ 38°30′

147°00′ 148°36′

CONTOUR INTERVAL 5 MILLIGALS

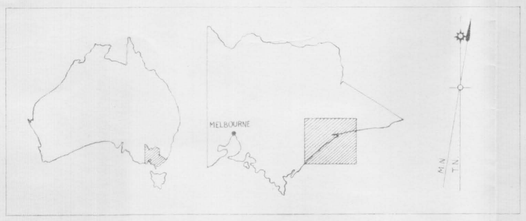
SCALE

MILES 4 0 4 8 12 16 MILES

FOR ABSOLUTE GRAVITY VALUES SUBTRACT 321 MILLIGALS FROM STATION AND CONTOUR VALUES SHOWN

CONTROL POINTS: GRAVITY STATIONS ON BASEMENT OUTCROPS AND BORE HOLES PENETRATING THE BASEMENT ROCKS

LOCATION DIAGRAM



GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

REGIONAL "g_o" BOUGUER ANOMALIES

SALE - LAKES ENTRANCE AREA

GEOPHYSICIST

LEGEND

REGIONAL GRAVITY CONTOURS

GRAVITY STATIONS

BORE HOLES

TRIG. STATIONS

G 93-16

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PLATE 8

37°20′

37°20′

MT. Mc LEOD

MT. ELIZABETH II

MT. TARA

MT. TAYLOR

MT. LOOKOUT

MT. NOWA NOWA

LAKE KING

LAKE VICTORIA

LAKE WELLINGTON

GIPPSLAND BASIN

38° 30′

38° 30′

147° 00′

148° 36′

CONTOUR INTERVAL 5 MILLIGALS

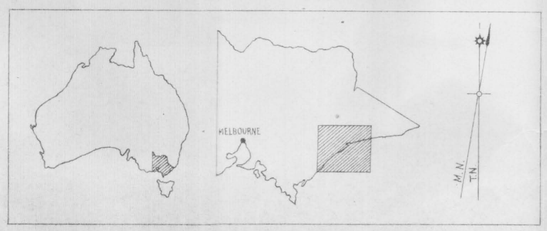
SCALE

MILES 4 0 4 8 12 16 MILES

CONTROL POINTS: SELECTED GRAVITY STATIONS AT APPROXIMATELY 5 MILE INTERVALS

FOR ABSOLUTE GRAVITY VALUES SUBTRACT 321 MILLIGALS FROM STATION AND CONTOUR VALUES SHOWN

LOCATION DIAGRAM



GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

SMOOTHED BOUGUER ANOMALIES

SALE – ORBOST AREA AND ADJACENT HIGHLANDS

J. Mulds

GEOPHYSICIST

LEGEND

GRAVITY CONTOURS

GRAVITY STATIONS

TRIG. STATIONS

G 93-17

Geophysical Section, Bureau of Mineral Resources, Geology & Geophysics

PLATE 9

37°20′

37°20′

MT. Mc LEOD

MT. ELIZABETH II

MT. TARA

MT. NOWA NOWA

MT. TAYLOR

MT. LOOKOUT

LAKE KING

VICTORIA

LAKE

LAKE WELLINGTON

S T R A I T

S S A S

B

38°30′

38°30′

147°00′

148°36′

CONTOUR INTERVAL 5 MILLIGALS

SCALE

MILES 4 0 4 8 12 16 MILES

LOCATION DIAGRAM

MELBOURNE

GEOPHYSICAL SURVEY, EAST GIPPSLAND, VICTORIA

RESIDUAL ANOMALIES

SALE – LAKES ENTRANCE AREA, COMPILED FROM PLATES 7 AND 8

J. Mulder

GEOPHYSICIST

LEGEND

RESIDUAL GRAVITY CONTOURS

GRAVITY STATIONS

TRIG. STATIONS

Geophysical Section, Bureau of Mineral Resources, Geology & Geophysics

G 93-18

PLATE

Gravity Survey of Gippsland Brown Coal Basin

Won Wron - Yarram - Welshpool Area

Scale : 1 Inch to 1 Mile

0.5 0 1 2 3 4 5 Miles

Map showing Topography of South Gippsland Highlands in Feet and Bouguer Anomalies in Units of Milligals.

Note : To convert values shown to Bouguer anomalies relative to International Gravity Datum

$(903 + 0.21 \cdot h)$ mgal

where h is station height in feet above sea level

See Note to Illustrations in Table of Contents