372001

GEOLOGY OF AIRBORNE
GEOPHYSICAL ANOMALY
10/1
Mbina Creek.

59-270

Anomaly 10/1
LEE 4/15/59.

372E

000

688

LYELL - E.Z. - EXPLORATIONS

064

372002

4th May, 1959

To: Mr. G.F. Hudspeth.

Anomaly 10/1

The accompanying reports describe the geological and geophysical setting of airborne anomaly 10/1. The anomaly occurs near the contact of the Precambrian and Dundas Group (Cambrian) in the vicinity of a transgressive fault located within the former area, the two structures together forming a "T".

The airborne response has been relocated by the ground investigation. The cause of this response is considered to be due to clay which underlies the gravels in this area and consequently no significant mineralisation can be associated with this result.

Conclusion

No further work is warranted on this anomaly.

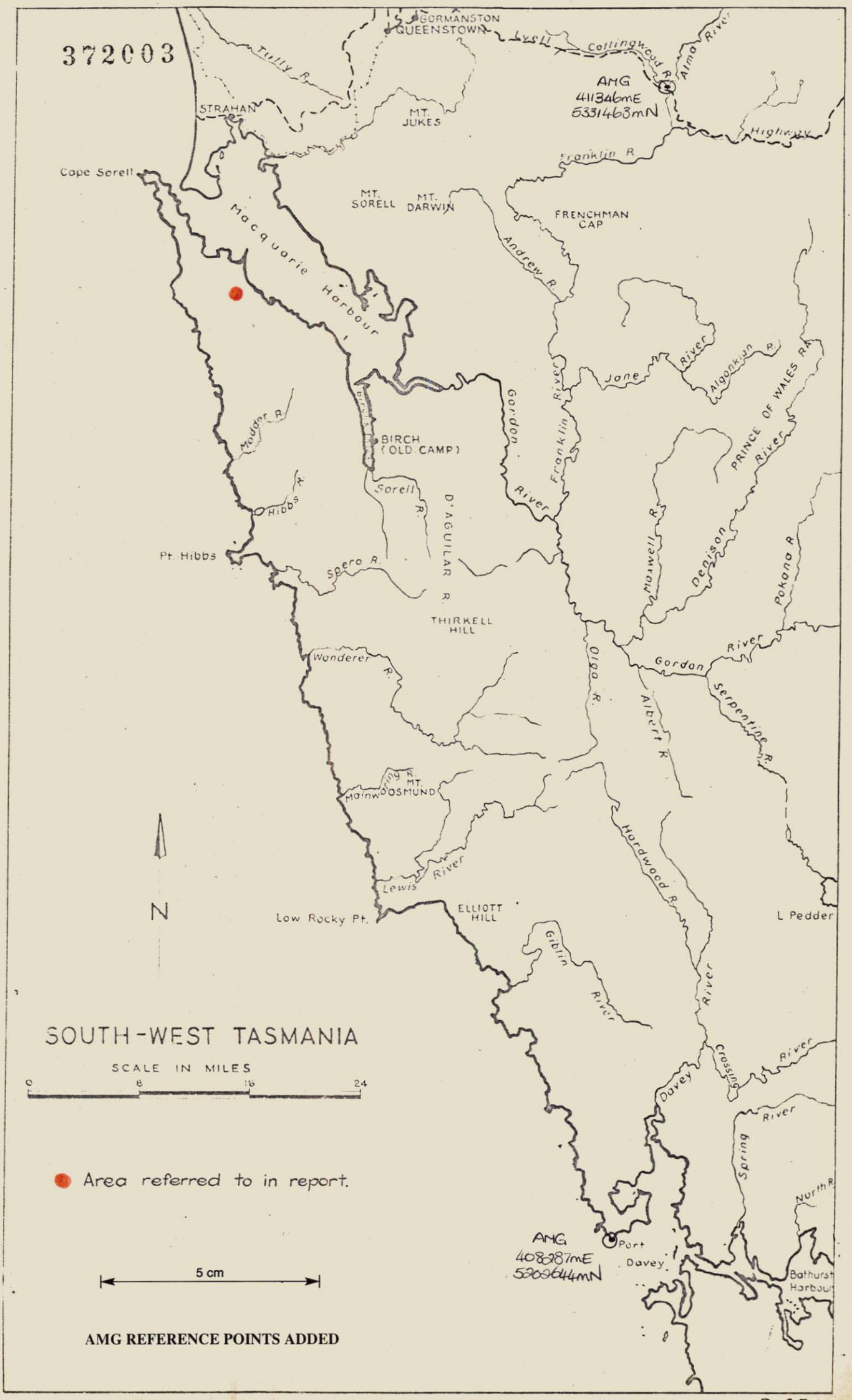
B. Seath

Chief Geologist, L.E.E.

AMG REFERENCE POINTS ADDED

001

372003



AMG REFERENCE POINTS ADDED

002

LYELL - E.Z. - EXPLORATIONS

G88

372004

195

I. GEOLOGY OF AIRBORNE GEOPHYSICAL ANOMALY 10/1,

ALBINA CREEK

1. Dates of Investigation: 10.4.59 to 14.4.59

2. Man Days in the Field: 21

Personnel:

Geologist:	I.M. Paltridge
Geophysicist:	I.M. Sefton
Bushmen:	T.N. Burrell
	D.H. Watson
	D. Scott
	R.J. Bennett

3. Location: This anomaly is situated on Albina Creek about 4 miles south of liberty Point (Plate 25R), and about 12½ miles northwest of Birch. Geologically, it is in Cambrian rocks close to a Cambrian/Precambrian boundary fault. The anomaly is covered by air-photo 10/889/49.

4. Topography

The Cambrian rocks, which support a moderate growth of timber, lie east of a fault line scarp and at a considerably lower level than the Precambrian rocks to the west of the grid. The relief on the grid itself is mild.

5. GEOLOGY

This is shown on plate Q30/1.

Lithology

The Cambrian rock here is a sheared black or grey mudstone with no pyrite visible in hand specimen. Over large parts of the area, the bedrock is obscured by Recent alluvial sediments and deep clays which are the product of weathering. The alluvials are, in places, over four feet thick. In a prospect pit sunk on the northern line, waterlogged, black mud was found beneath 3 feet of gravels.

Structure

The Cambrian is faulted against the Precambrian a short distance west of the grid, but no evidence of faulting was seen on the grid proper. Bedding and cleavage in the mudstones are sub-parallel and dip to the south-east at moderate to steep angles.

Mineralisation

No mineralisation was seen in the area.

Conclusions

No further work is warranted.

J. Michael Paltridge

003

LYELL - E.Z. - EXPLORATIONS

372005

22nd May, 1959

GEOCHEMICAL INVESTIGATION 10/1

Soil samples 1519 to 1569 were collected from 10/1. These form lot 23.

No significant concentration of base metals was found.

J. Richard Pattridge

004

372006

23rd April, 9

A.E.M. Anomaly 10/1

A large order airborne response - line 661: 2.1 degrees low frequency phase shift at 430' in a ratio of 1.17 with the high frequency - occurs as the junction of the fault contact between Cambrian and Precambrian rocks and a transgressive structure photomapped in the Precambrian. The anomaly itself falls within the Cambrian (Dundas) Group.

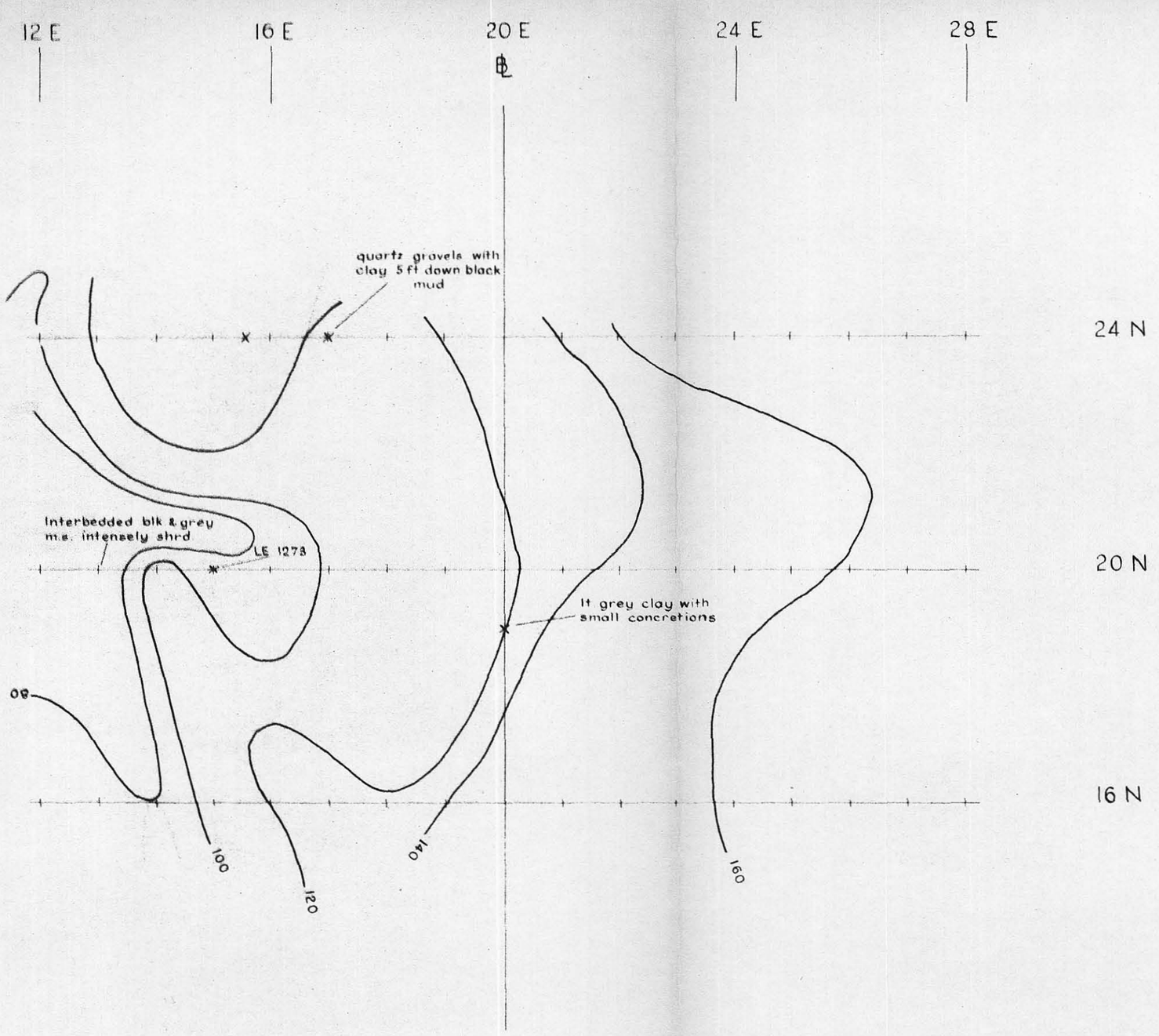
A ground induction survey located a zone of considerable width, upwards of 300' in the North, but narrowing South, and of variably, but generally poor conducting material. Nonetheless, it is a marked feature by virtue of a large dip extent, dip approximately 60 degrees grid west, and a linearity coupled to indicated continuations in strike. The cover is thin, circa 10'.

A gravimetric coverage revealed regional trends consistent with a fault contact in the vicinity of the grid area. Locally, it resolved the zone of conduction as a region of mass deficiency, particularly marked on line 16N where the electrical expression is noticeably unique. As the magnetics are largely featureless, sulphide mineralisation, even if any, can only be limited to insignificant minor pyritic dissemination in a sheared bedrock.

The above definition of this shear feature in the Dundas by electrical and gravimetric means rather suggests that it is common to the photo-interpreted cross-structure in the Precambrian. In this event, it must be a post-contact faulting showing little or no horizontal movement.

Boniwell

J.B. BONIWELL



372007

5 cm

59-270

References

GEOLOGY

LYELL E.Z. EXPLORATIONS
QUEENSTOWN

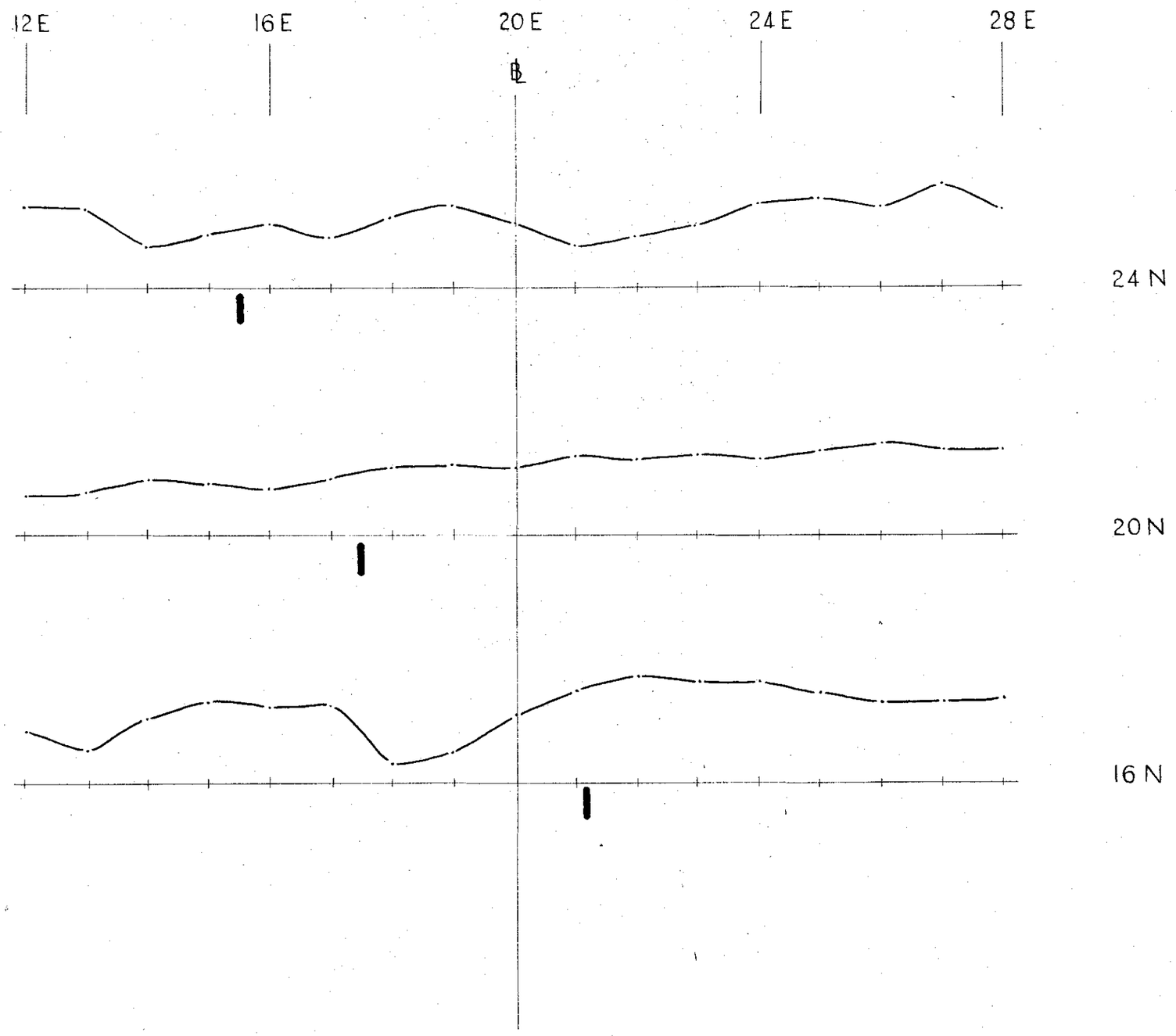
ANOMALY 10/1

			Scale
Survey			200 ft. to 1 inch
Geology	I.M.P.	Apr.'59	
Geophysics			
Geochemistry			
Drawn	I.M.P.	Apr.'59	
Traced	D.S.	May 59	

2300

Q30 Sheet No. 1

Checked by
Date 12.7.59



372008

5 cm

59-270

References

MAGNETIC

LYELL E.Z. EXPLORATIONS
QUEENSTOWN

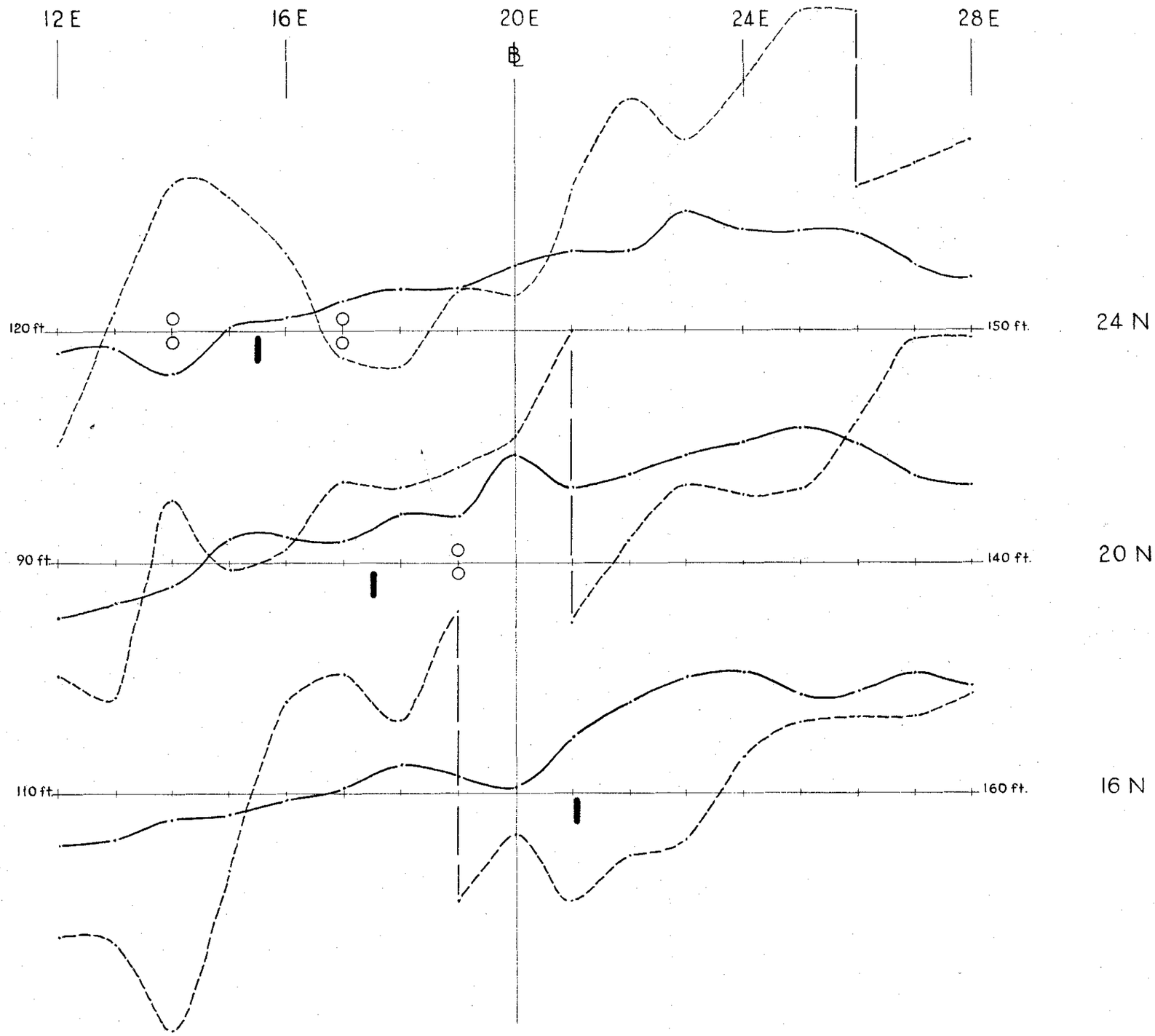
ANOMALY 10/1

			Scale
Survey			
Geology			Hor. 200 ft. to 1 inch
Geophysics	I.M.P.	Apr. 59	
Geochemistry			Vert. 100 γ to 1 inch
Drawn	I.M.P.	Apr. 59	
Traced	D.S.	Apr. 59	

2301

Q30 Sheet No. 3

Date 12.7.59



372009

5 cm

59-270

Reference

——Bouguer Gravity

- - - Topography

E.M. Axes

BOUGUER GRAVITY

LYELL E.Z. EXPLORATIONS

QUEENSTOWN

ANOMALY 10/1

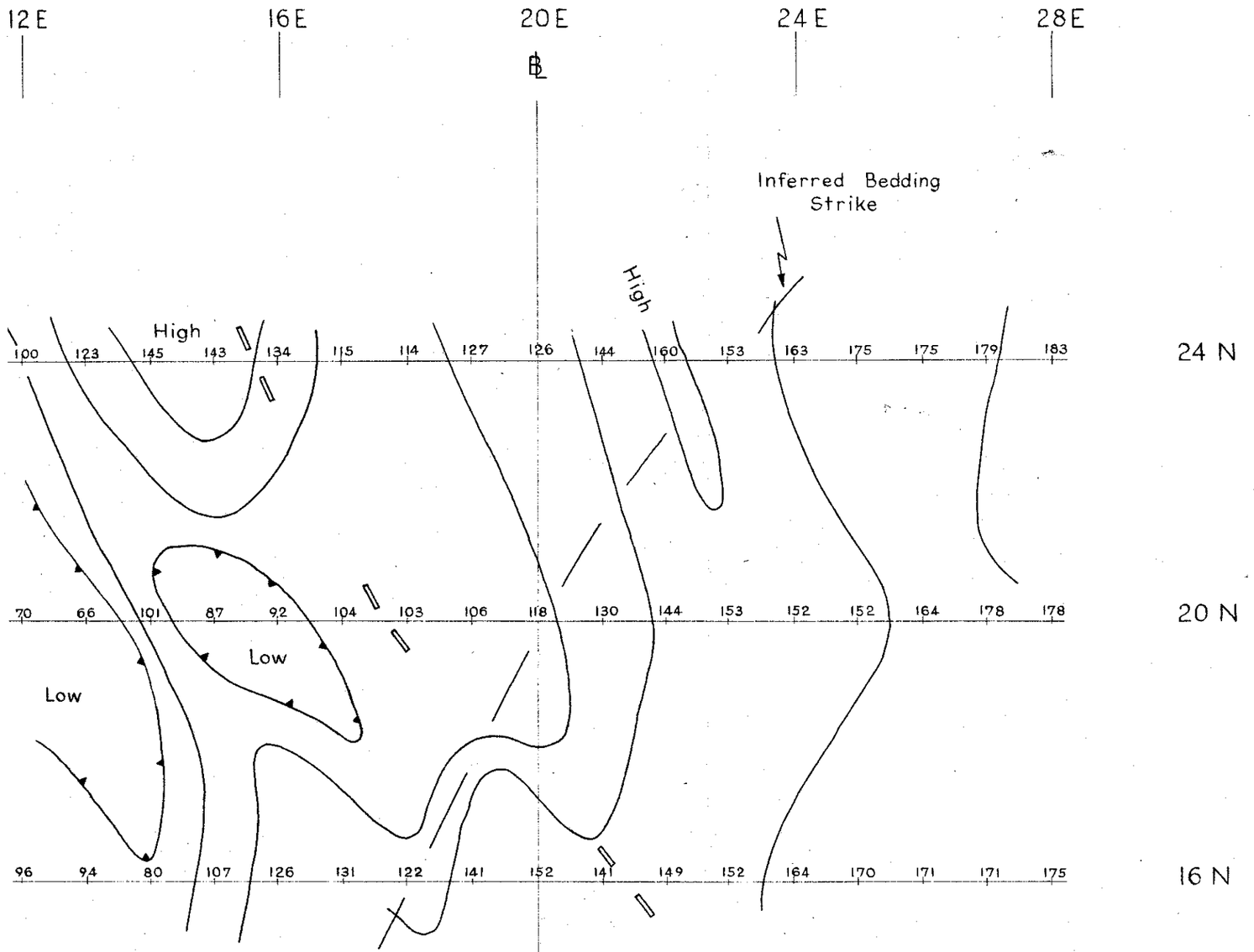
			Scale
Survey			
Geology			Hor. 200' to 1"
Geophysics	I.M.S. I.M.P.	Apr. 59	Vert. 20' to 1"
Geochemistry			
Drawn	J.R.G.	Apr. 59	Δg 1"=1.0 mgal
Traced	D.S.	Apr. 59	

2302

Q30 Sheet No. 4

Checked by

Date 14.7.59



372010

5 cm

59-270

References

Topographic contours C.I. 20 ft.

E.M. Axes

GRAVITY

LYELL E.Z. EXPLORATIONS

QUEENSTOWN

ANOMALY 10/1

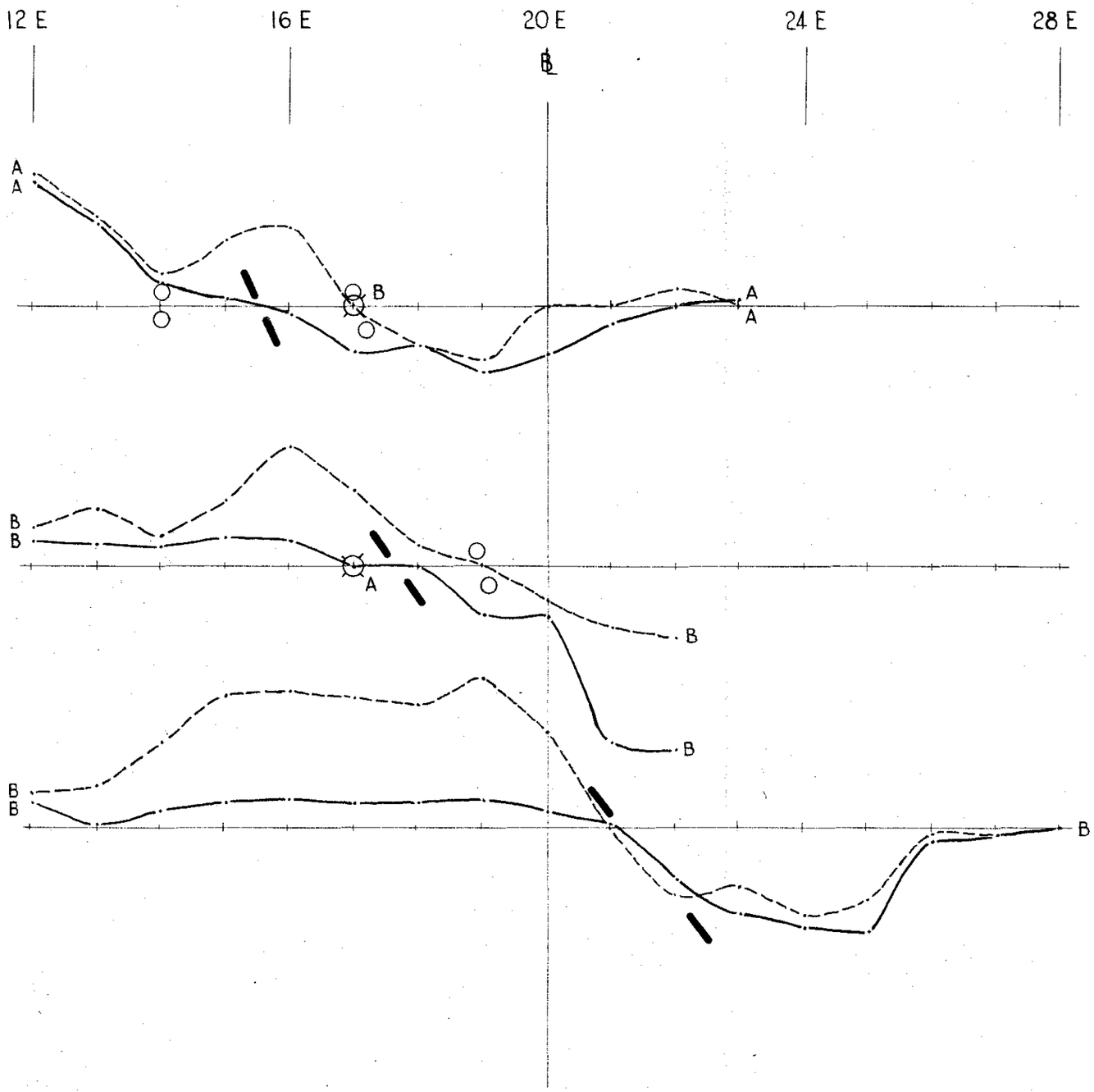
			Scale
Survey			
Geology			
Geophysics	J.B.B.	Apr.'59	200 ft. to 1 inch
Geochemistry			
Drawn	J.B.B.	Apr.'59	
Traced	D.S.	Apr.'59	

2303

Q 30 Sheet No. 4a

Checked by

Date 14.7.59



5 cm

372011 59-270

References

—— 1000 cps.

- - - - 5000 cps.

VERTICAL COIL

LYELL E.Z. EXPLORATIONS

QUEENSTOWN

ANOMALY 10/1

			Scale
Survey			
Geology			Hor. 200 ft. to 1 inch
Geophysics	T.N.B., I.M.P.	Apr. '59	
Geochemistry			Vert. 20° to 1 inch
Draw	I.M.P.	Apr. '59	
Trace	D.S.	Apr. '59	

2304

Q 30 Sheet No. 10

Checked by

Date 14.7.59