

REGIONAL REPORT
ON
MODDER RIVER AREA

58_279

Regional Report On Modder River Area

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VOL III	Anomalies 10/3b & 10/4a Geology Section – Anomalies 10/3b & 10/4a South West Tasmania – Location Map

LYELL - E.Z. - EXPLORATIONS

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MICROFILMED

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REGIONAL REPORT ON MODDER RIVER AREA

Introduction

Although more than two months were spent in the area, the bulk of the effort was put into preparation of access tracks, baseline and traverse lines. Some 20% of the total time was spent in geochemical sampling, and carrying out geophysical investigations.

Less than two complete days were spent in geological mapping. The following report is therefore brief and incomplete.

These three anomalies were treated in one investigation for convenience and because photo-interpretation indicated similar geological settings.

The conclusions as to anomaly causes were checked by trenching and by blasting test holes in the areas indicated by the geophysical ground checking.

Precambrian

The Precambrian rocks seen lie entirely to the west of the Modder River, and therefore to the west of the area investigated.

Except near the Modder River itself, no outcrop was encountered in the Precambrian belt, but fragments of rock found included quartzite, quartz graphite schist, shale and limestone.

The quartzite and shale constitute the bulk of the sequence, the quartz graphite schist comprising a very minor part. Limestone was found at two points only (analysis in Table 1).

TABLE 1

	<u>CaO</u>	<u>CO₂</u>	<u>SiO₂</u>	<u>Al₂O₃</u>	<u>MgO</u>
Modder River Limestone	41.08	37.10	15.6	5.31	3.0

The analysis of this limestone shows that it falls just within the dolomitic limestone category. The outstanding feature is the high silica percentage which may be due to the presence of chert or which may be a result of silicification.

The first point where the limestone was found was a few hundred feet west of the Modder River on Line 26. The limestone here was grey in colour and sugary textured. The dip and strike of any bedding was indeterminate in

this small outcrop.

The second was an outcrop in the bed of the Modder River at the western end of Line 14. The limestone was here a dark grey, fine grained, very hard, thin ($\frac{1}{2}$ ") bedded rock. No fossils were observed.

The strike was measured at 050° , the dip being 85° in a southeasterly direction.

Since, to the writer's knowledge, the only Precambrian limestone known in western Tasmania is placed in the Carbine Group, it could be suggested that this Modder River limestone (and the associated Precambrian sequence) also belongs to the Carbine Group.

Cambrian

Dundas Group

The Dundas Group rocks occupy the high plateau in the centre of the area investigated.

The plateau area is typically open myrtle forest with a light underbrush of ferns and occasional thick patches of horizontal scrub. The plateau is at times deeply dissected by generally north-westerly flowing tributaries of the Modder River. Good exposures of Dundas Group rocks are to be found in the valleys of these tributaries.

Rock types represented are greyish shales (sometimes pyritic), tuffaceous shales and tuffs. Black pyritic shales and basic lavas (?) occasionally occur in the eastern half of the plateau area.

The Dundas rocks exhibit two trends in strike direction.

The first trend has a bearing of 350° , the second a bearing of 030° . Both bearings are generalised.

The regional dip is steeply east, mostly in the range $75-85^{\circ}$ east.

The 030° strike trend occurs entirely to the west of a line (bearing 250°) some 600 feet east of the baseline on Lines 14E and 16E.

The 350° strike trend is entirely to the east of this line.

This variation in trend is probably due to the effect of strong faulting which strikes at a bearing of $240^{\circ}-250^{\circ}$ with a dip 80° SE in this particular area.

Basic and Ultrabasic Intrusives ('Serpentinite')

As a convenient generalisation these variable rocks are mostly referred to as 'serpentinite'.

Two occurrences of 'serpentinite' are to be found in the area, one in the valley of the Modder River emplaced along the faulted contact between the Precambrian and Dundas sediments, the other to the east of the investigated area forming the eastern boundary of the north-south wedge of Dundas rocks.

The serpentinite is very variable, both in texture and colour. The colour ranges through pale yellowish green, blue green, dark green, greenish and yellowish black. The texture ranges from fine grained massive to coarsely ($\frac{1}{4}$) holocrystalline.

In the eastern mass of 'serpentinite', there is a considerable proportion of dense hard fine grained gabbro of a general pale green colour mottled with white. The felspar in the gabbro is apparently not altered to any great extent.

The relationship of the gabbro to true serpentinite is difficult to discover as the 'serpentinite' lies in a flat swampy area almost devoid of outcrops.

The boundary between the Dundas sediments and the 'serpentinite' is clearly indicated by three things. Firstly, there is a marked difference in vegetation on the two rock types. The vegetation to be found on serpentinitic area comprises thick bauera scrub, various ti-trees, celery pine and dorrel. The Dundas area, generally speaking, in open Beech (myrtle) forest with fern underbrush and occasional thick patches of horizontal scrub.

Secondly, there is generally a sharp slope down from the Dundas plateau to the flat 'serpentinite' area.

Thirdly, during the taking of soil samples, the difference of soils of different derivation became quite apparent.

Just inside the contacts of the 'serpentinite' masses with the Dundas sediments are strong sub-parallel shears running for considerable distances. The strike of the boundary shear zone in the western 'serpentinite' mass varies in bearing from 10° to 50° , and in the eastern 'serpentinite' mass has a general bearing of 10° .

In the zones of shearing, talc is often well developed, and small masses of a fibrous mineral (asbestos) appear.

In the eastern 'serpentinite' zone boundary shear talc is very well developed, the sheared material is quite wet, and translucent to white quartz veins occur.

Summary of Conclusions

In the case of all three anomalies (10/3b, 10/4a and 10/4) test holes were blasted or trenching was carried out in the places indicated by the magnetic and electro-magnetic ground checking.

At each anomaly testing revealed a strong shear zone (coinciding with the boundary shear in the case of 10/4 and 10/4a) which would be a good conductor. Presumably these shears are the causes of the electromagnetic anomalies.

In the absence of any indication of mineralisation it is suggested that the magnetic anomalies are due to the contrast in magnetic susceptibilities of the 'serpentinite' and Dundas sediments.

Magnetic anomalies could also be due to the contrast of the susceptibilities of the different rock types within the serpentinite mass.

II. GEOCHEMISTRY SECTION - ANOMALY 10/4

Soil samples 4282 to 4305 were collected from this grid, forming Lot 23. They were analysed for lead, zinc, copper chromium and nickel.

Only significant quantities of chromium occur in the samples analysed. The results from line 4N behave as would be expected with nil chromium in the Dundas sediments and up to 0.05% in the soils over the ultrabasic. However, lines 8N and 12N are irregular in that high chromium values also occur over the Dundas Group suggesting that thin dykes of ultrabasic rock occur in the Dundas Group on the west side of this grid.

Conclusions

The concentrations of chromium do not indicate mineralisation of economic importance but are a normal accompaniment of ultrabasic intrusions.

23rd March,

9

A.E.M. Anomaly 10/4

This is a well-marked, air-indicated linear in neat correlation with an intense (2500 gammas) aeromagnetic ridge within the ultra-basic belt. At the actual point of ground investigation, unfortunately to one end of the feature, the airborne anomaly is represented by a low order, poor quality expression - line 664: 0.3 degrees at 480' in a ratio of .43 - although it is fairly well resolved.

A strong ground conductor was located and defined by a vertical loop induction survey. As a steeply dipping (circa 60 degrees grid West) sheet, it is very shallow to surface, less than 10' in places, e.g. line 12N, but no greater than 30', and is, oftentimes, of finite dip extent, say less than 200'.

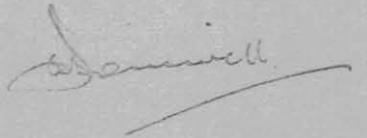
For such a shallow horizon, the gravity results preclude sulphides as the source of conduction. Although no ground geology is available, shearing can be expected in the general environment; and thus, it is assumed that the features in the conductor response reflect physical variations in a zone ^{of} bed-rock weakness.

The gravity picture is complex. However, an axis of similitude has been recognised east of the BL, which, it is seen, conforms to the conductor strike and to the more regional magnetic trends. The implication is that shearing is paralleling or actually delineating lithological boundaries.

Q19

Inch

Isolated magnetic activity, as at 6N/1E, 12N/1E can be related to a host of causes extant in a region of ultra-basic intrusion, e.g. magnetite, chromite, pyrrhotite, olivine, hornblende, but even without the geologic control necessary for positive interpretation, the geophysical evidence does not allow significant concentrations of base metals.



J. B. HOWELL

Q19

inch

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REGIONAL REPORT ON MODDER RIVER AREAIntroduction

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Magnetic anomalies could also be due to the contrast of the susceptibilities of the different rock types within the serpentinic mass.

As would be expected, the chromium and nickel values show a preferred association with the ultrabasic intrusives, which are located on the eastern and western margins of the grid. Some of the high chromium values outside the margins of the intrusives, as on the extreme west end of line 10, are considered to be due to the effect of soil creep down the steep slope of the Noddy River. The high values of chromium confirm the presence of chromite in the ultrabasic but there is not a direct relationship between the chromium content of the rocks and the vertical magnetic intensity readings as would be expected if these values were reflecting variations in the chromite content of the ultrabasic. In contrast to the chromium values which generally occur in all samples collected in the intrusives, the nickel values appear to be more restricted in their occurrence. Their association with the magnetic highs and their spread can be established but again there is no direct relationship to the intensity of the magnetic high and the magnitude of the nickel values (i.e. a typical magnetic high can have a strong nickel indication, and vice versa).

The soil samples have confirmed the presence of chromite and nickel in the ultrabasic of this study area. However, it must be recognised that these two metals are also present in abundance in the Dundas sediments.

The present work is in agreement with the other data on this area.

It is suggested that further work should be carried out in the following areas:

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II. GEOCHEMICAL SECTION (10/3b & 10/4a)1. Sample and Lot Numbers

Soil samples 4000 to 4219, forming lots 12, 14 and 15, were analysed for lead, zinc, copper, chromium and nickel.

2. General Comments

Values of lead and zinc occur in samples collected on the grid, formerly in the sediments belonging to the Dundas Group but they do not form into a consistent grouping and the metal content is low and too sporadic to be used as an indication of extensive sulphide mineralisation. This contention is supported by the absence (less than 1 ppm) of copper in any of the samples analysed.

As would be expected, the chromium and nickel values show a preferred association with the ultrabasic intrusives, which are located on the eastern and western margins of the grid. Some of the high chromium values outside the margins of the intrusives, as on the extreme west end of line 18, are considered to be due to the effect of soil creep down the steep slope of the Modder River. The high values of chromium confirm the presence of chromite in the ultrabasics but there is not a direct relationship between the chromium content of the soils and the vertical magnetic intensity readings as would be expected if these metal values were reflecting variations in the chromite content of the ultrabasic. In contrast to the chromium values which generally occur in all samples collected on the intrusives, the nickel values appear to be more restricted in their occurrence. Their association with the magnetic highs and shear zones can be established but again there is no direct relationship to the intensity of the magnetic high and the magnitude of the nickel values (i.e. a feeble magnetic high can have a strong nickel indication, and vice versa).

3. Conclusions

The soil samples have confirmed the presence of chromium and nickel in the ultrabasics of the anomaly area. However, it must be emphasised that these two metals are of common occurrence in ultrabasics of the type being investigated and their presence here when compared with the other ultrabasic belts of the West Coast cannot be taken as unique.

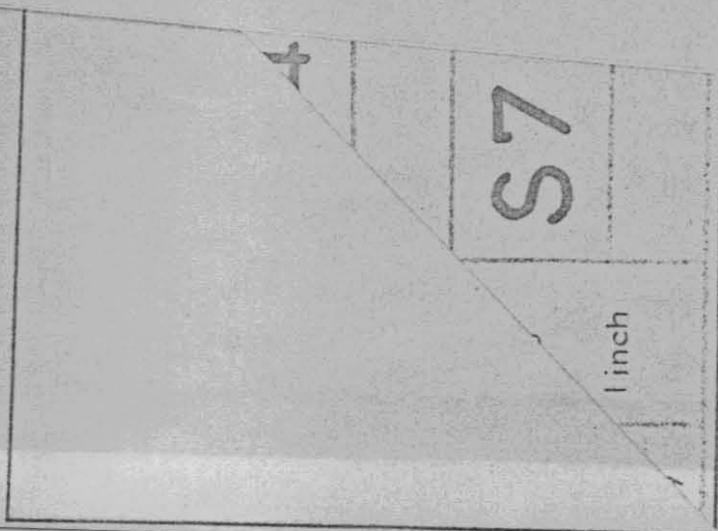
23rd March, 1954 9

A.E.M. Anomaly 10/3b

Although not immediately clear from the contouring, this airborne anomaly is, in all likelihood, an integral part of a long electrical linear associated with the ultra-basics near the Precambrian-Dundas contact. The response itself (line 642: 0.4 degree at 550' in a ratio of 1.00) is well resolved, even though the low frequency departure has been broadened by an inherent terrain effect.

The ground geophysical coverage disclosed a complex setting in which at least two variably conducting horizons were recognised. The results, where definitive, ascribed to these a marked dip approximately 70 degrees grid East, and a shallow cover, less than 25'. On at least three points, geological investigations have established the coincidence of the electrical axes with zones of shearing (lines 16 & 18); thus, in the south, the uniqueness and increased strength of the anomalous expression suggests bifocation of a parent conducting shear zone north.

The conductor axes are broadly confined to a region of magnetic high, although, for the most part, no consistent correlation is clear. However, between lines 14 to 18, the most westerly conductor is fairly faithfully related to a magnetic ridge, peak magnitude 2700 gammas. Despite the presence of chlorite schists, some magnetic minerals might be presumed, particularly in view of some scattered geochemical determinations anomalous in chromite and nickel.



However, the gravimetric evidence does not allow any significant concentrations of heavy metals. Although a small positive gravity anomaly corresponds with the peak chromite value on line 16/11W, and again on line 18/13W, the magnitude (0.10 mgal.) and width is far too minor to evoke economic consideration. The nickel appears even more disseminated, and can not be related to any gravity expression.

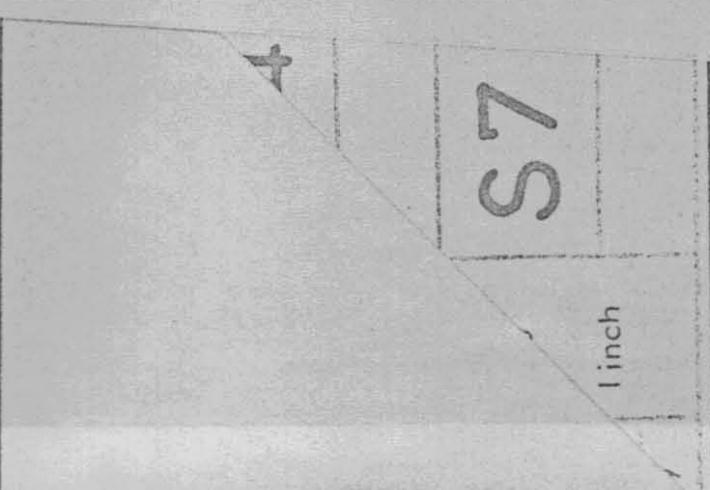
This sampling, in itself quite complete, does not increase the probability of the extrapolated geologic setting as an environment for an economic orebody.

J. B. Boniwell

J.B. BONIWELL

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1 inch



20th March, 1959

A.E.M. Anomaly 10/4a

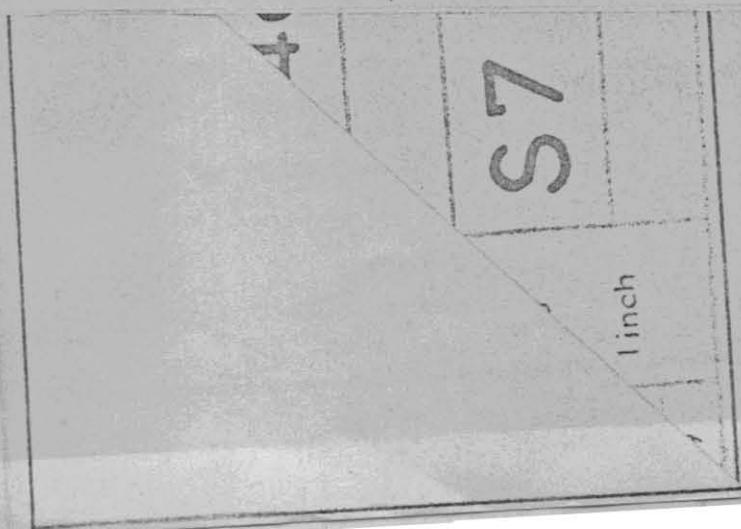
This is an isolated good quality air-borne response - line 642: 0.4 degree low frequency phase shift in a ratio of 1.67 with the high - but the isolation, due to flight spacing at this particular point, is more apparent than real. The anomaly itself is incidental to an aeromagnetic ridge arising from an ultra-basic intrusive.

A strong, near-vertical conductor was located on the ground very shallow to surface (less than 20' and virtually outcropping on line 18).

The results also indicate considerable dip extent to this electrical horizon and a strike discontinuity between lines 14 & 16.

Geological mapping and pitting, together with the gravimetric evidence, conclude a fault contact coincident with the conductor at least in the southern half of the grid. To the North, geology suggests a fault system independent of the contact, e.g. the cross-structures mapped to the West striking into the electrical "break". Nonetheless, conduction clearly arises from the fault plane of a major K-S structure, and appears, therefore, largely ionic.

An intense magnetic feature crosses the grid area, directly associated, but not in correlation with, the electrical axis. Since gabbros and serpentinites have been mapped from the contact to the limits of the grid East, the magnetics patently reflect some concentration in notably magnetite, and possibly chromite content of the ultra-basic rocks. But the very definite zoning also suggests a distinct horizon, a facies change distinguished,

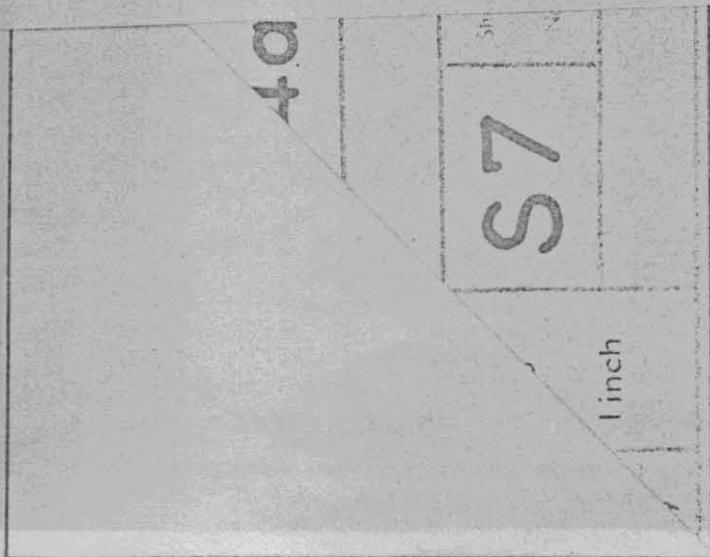


say, by olivine enrichment.

However, there is nothing economic in these considerations. In the optimum, a mere 1% magnetite concentration would account for the peak magnetic anomaly, although immense tonnages of chromite would be necessary (actually, 100% chromite could be expected to produce a magnetic anomaly one-fifth of that recorded). The latter, however, implies a pole-centre and excess mass-centre quite incompatible with the geophysical evidence.

J.B. Boniwell

J.B. BONIWELL



26th May, 1959

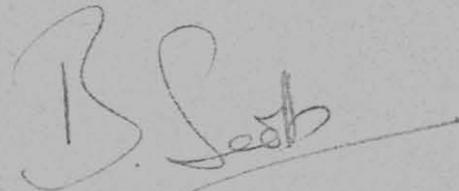
To: Mr. G.F. Hudspeth

ANOMALY 10/4

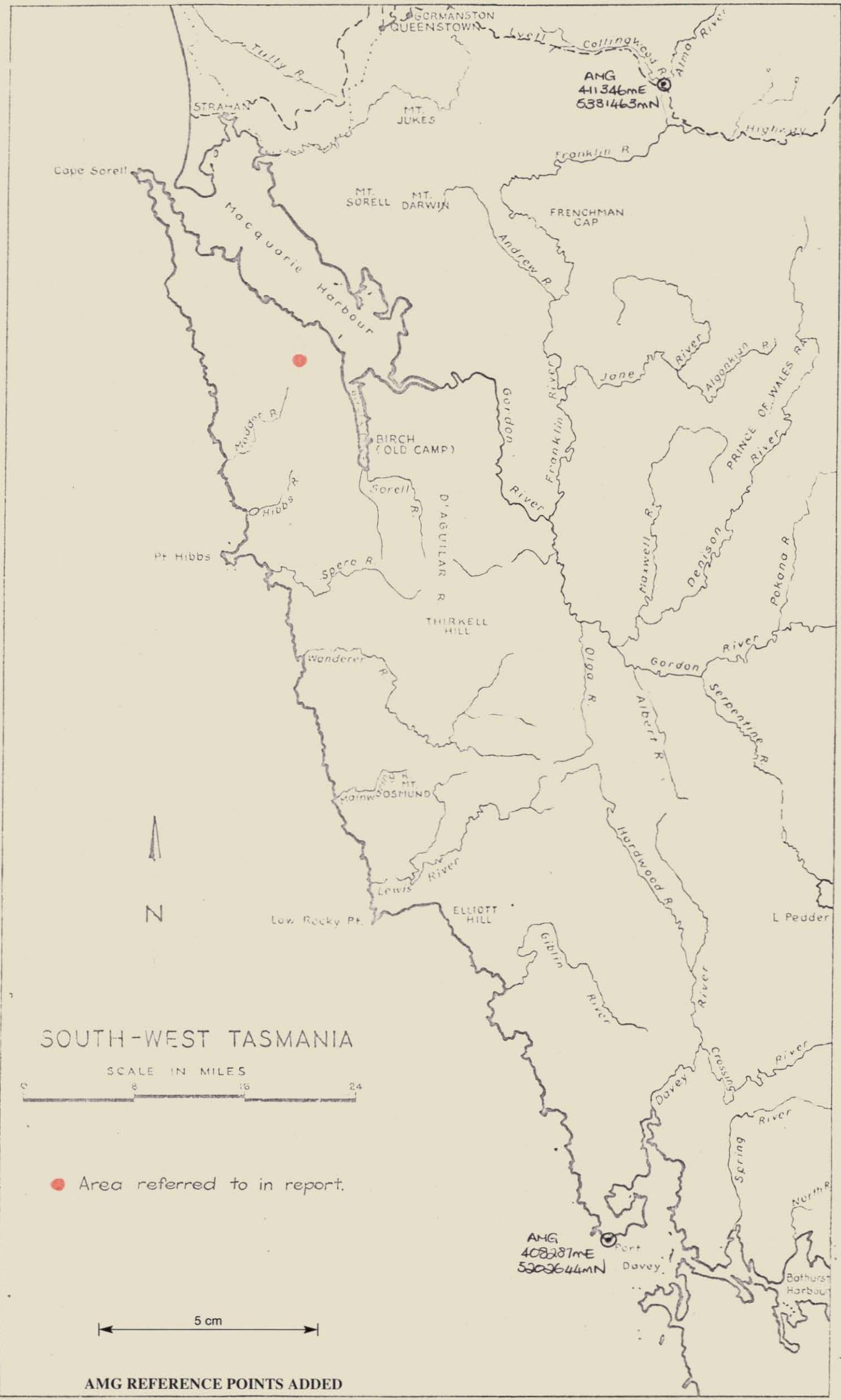
The accompanying reports describe the setting of airborne anomaly 10/4. The anomaly occurs at the Dundas Group/serpentinite contact some 2800' to the north east of anomaly 10/4a.

The airborne response has been confirmed on the ground and it is related to a strong line of shearing at or near the country rock/serpentinite contact. This shear is exposed on line 12N and consists of 10 feet of wet talcose material indicating that the conduction is ionic.

No further work is warranted on this anomaly.



Chief Geologist, L.E.E.

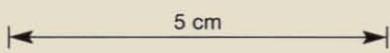


SOUTH-WEST TASMANIA

SCALE IN MILES



● Area referred to in report.



AMG REFERENCE POINTS ADDED

I. Geology Section - Anomaly 10/4

1. Date of Investigation: 4.2.59 to 17.2.59
2. Man Days in the Field: 48
- Personnel :
- | | |
|---------------|-------------|
| Geologist: | R.G. Elms |
| Geophysicist: | I. Sefton |
| Bushmen: | T. Burrell |
| | G. Seymour |
| | K. Morrison |
| | M. Maywood |
3. Location: Some 6 to 7 miles due NW of Birch Inlet camp. Anomaly 10/4 occurs on photo 12/890/74, lying 2800' distant on a photobearing of 045° from 10/4a grid point 10E/14.
4. Topography: See Regional Report.

Geology

Anomaly 10/4 lies wholly within the 'serpentinite' mass, although very close (within 50') to the contact with Dundas rocks.

Outcrop in the grid area is very poor so the above fact had to be deduced from two facts:

1. The change in vegetation as the contact is crossed;
2. The downward slope as you cross from the Dundas to the serpentinitic area.

At 12N/2E an outcrop of mottled dark green and white fine grained gabbro was seen.

At 4N/3E a fine grained light grey-green pyroxenite (LE1197) occurred, while between 250'E and 125'E on line 4N good outcrops of dark greenish black coarsely crystalline serpentinite occurred. Particularly around 4N/2E a shallow horizon of aggregated secondary limonite nodules, derived from serpentinite weathering, occurred.

Unfortunately, these outcrops revealed little, serving only to illustrate the variability of the 'serpentinite'. Trenching on line ~~2N~~ 12N revealed a strong shear-zone, 25' + wide, seen between 50'E and 75'E. This shear was wholly within the 'serpentinite'.

Between 50'E and 60'E the shear took the form of a soft sheared talcose material and made water rapidly. Specimens LE1199 and LE1609

exemplify this part of the shear. From 60'E to 65'E the serpentinite (LE1198) was completely leached and altered in mineral character, being a sticky, wet, clay-like material which was dark brown in colour. The outline of the original coarse crystalline nature of the serpentinite remained however.

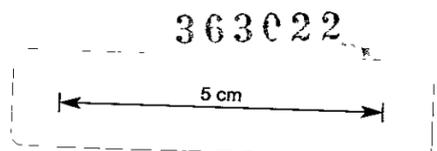
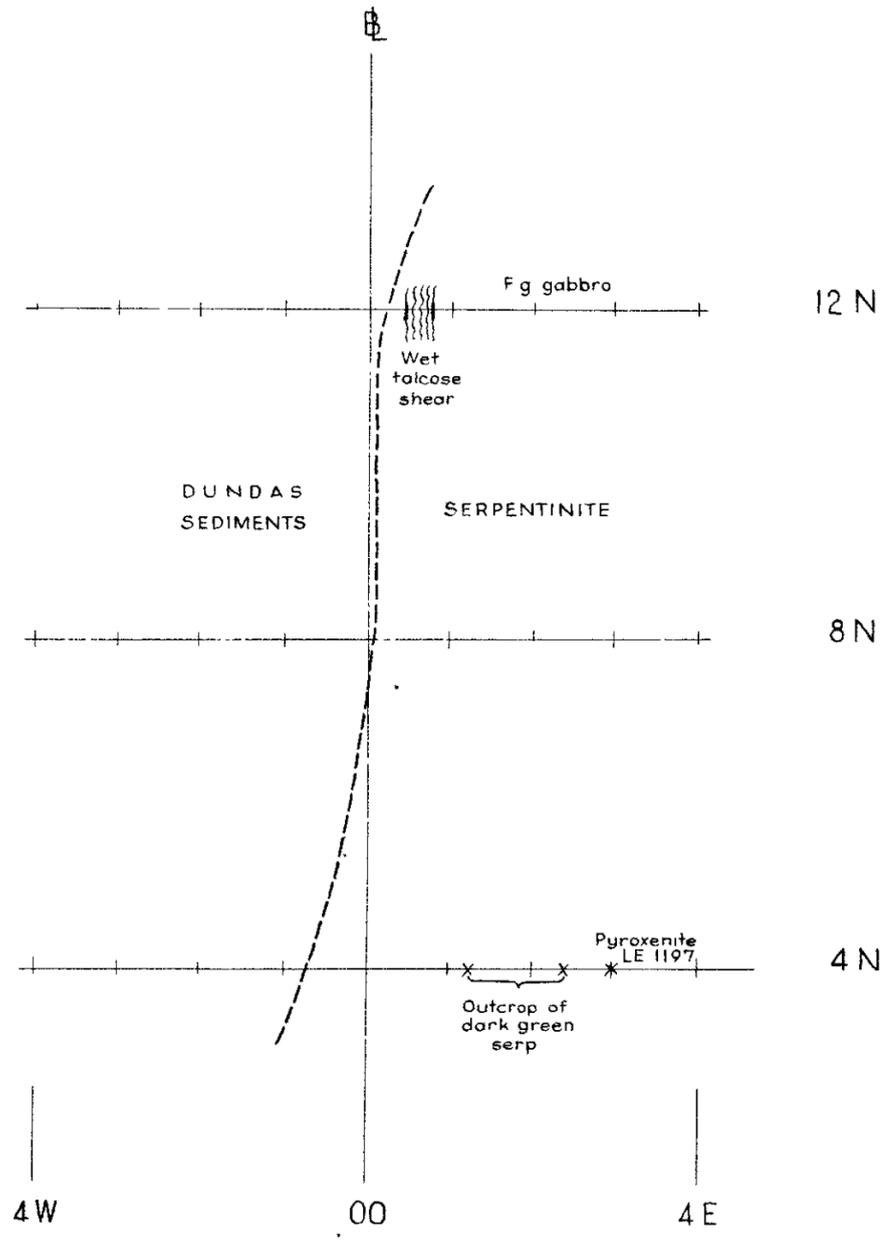
Between 65'E and 75'E the serpentinite was light green in colour, sheared, broken and very wet.

Conclusions

The strong shear zone described is undoubtedly the cause of the electromagnetic anomaly.

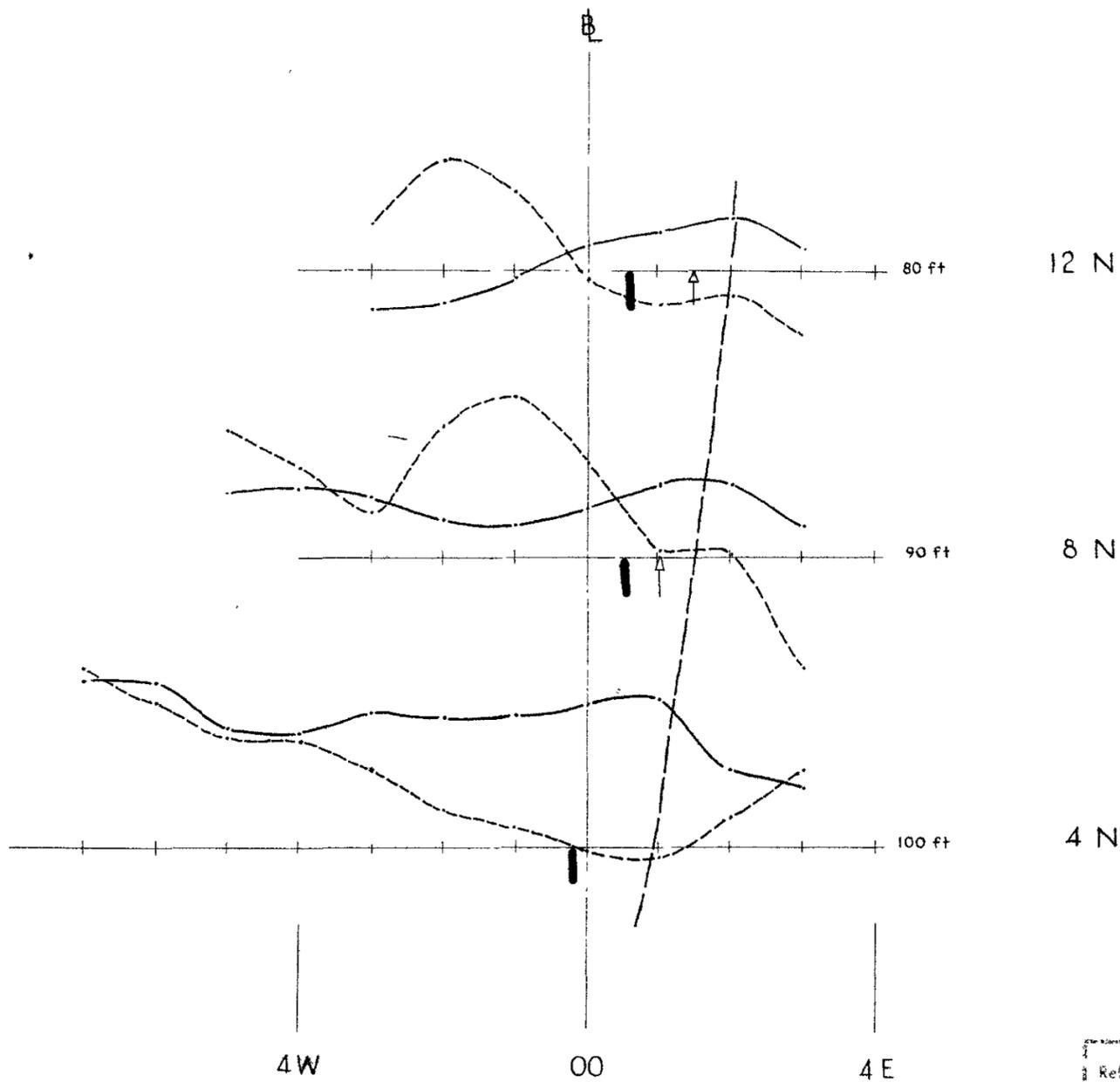
The variability of composition probably explains the irregular magnetic results over the 'serpentinite'.

Robert G. Elms.



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References	LYELL E. Z. EXPLORATIONS QUEENSTOWN								
	ANOMALY 10/4								
	Survey		Scale						
	Geology	R.G Elms	Mar '59	200 ft. to 1 inch					
	Geophysics								
	Geochemistry	R.G Elms	Mar '59						
Drawn	R.G Elms	Mar '59							
Traced	D.S.	Apr '59							
GEOLOGY		<table border="1" style="width: 100%;"> <tr> <td style="font-size: 2em; text-align: center;">Q 19</td> <td style="font-size: 0.8em;">Sheet No</td> <td style="font-size: 2em; text-align: center;">1</td> </tr> <tr> <td colspan="3" style="font-size: 0.7em;">Checked by: <i>[Signature]</i> Date: 13.7.59</td> </tr> </table>		Q 19	Sheet No	1	Checked by: <i>[Signature]</i> Date: 13.7.59		
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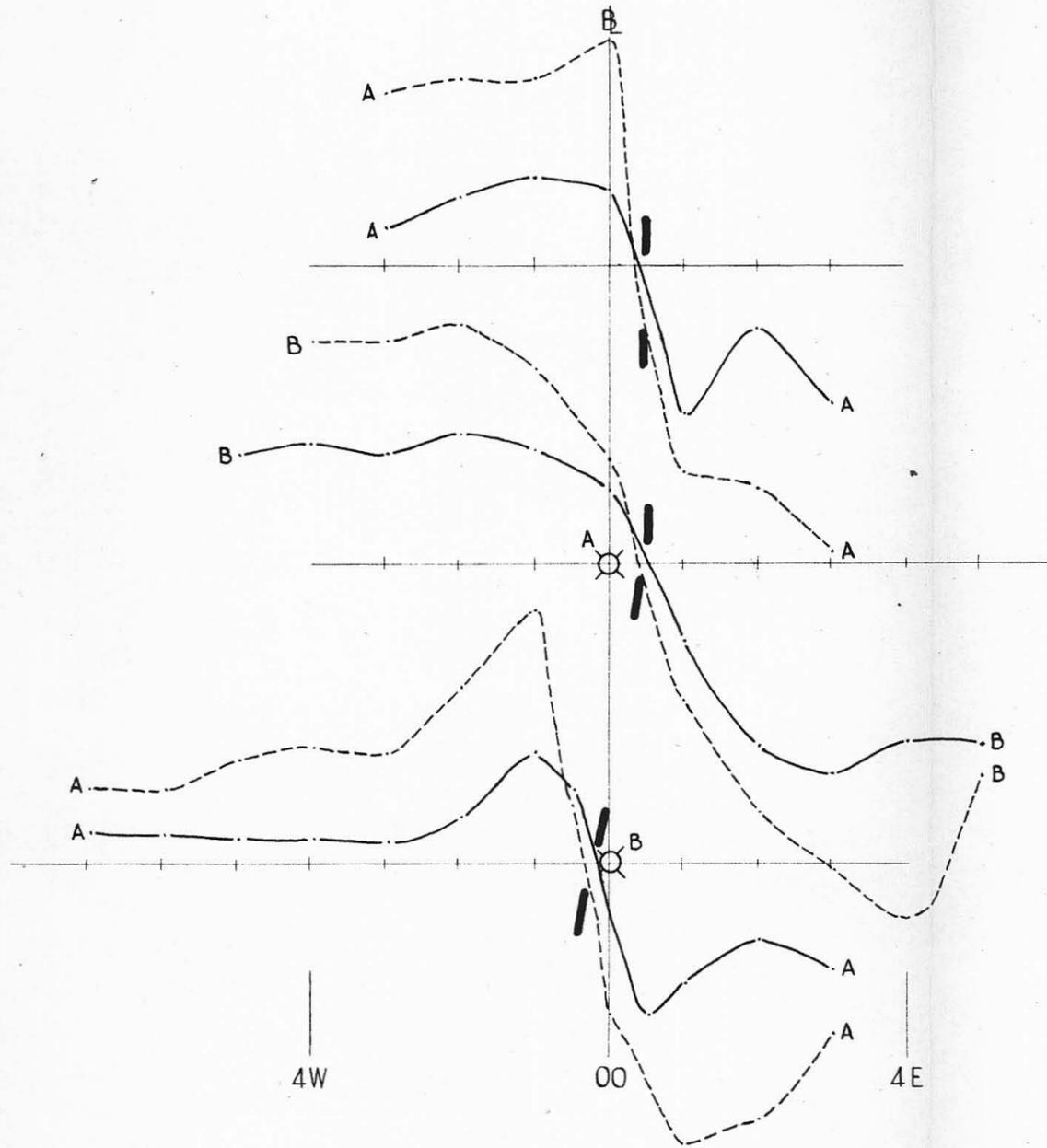
approx North

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5 cm

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References		LYELL E.Z. EXPLORATIONS QUEENSTOWN			
Bouguer Gravity		ANOMALY 10/4			
Axis of similitude					
Topography		Survey		Scale	
E.M. Axes		Geology		Hor.	200' to 1"
Mag. High Axes		Geophysics	J. Sefton	Vert.	20' to 1"
BOUGUER GRAVITY		Chemistry		Δg	1" = 10mgal
		Survey	J. Boniwell	Sheet Q19 No 4	
		Survey	J.R.G.	No. 13759	



12 N

8 N

4 N

4W

00

4E

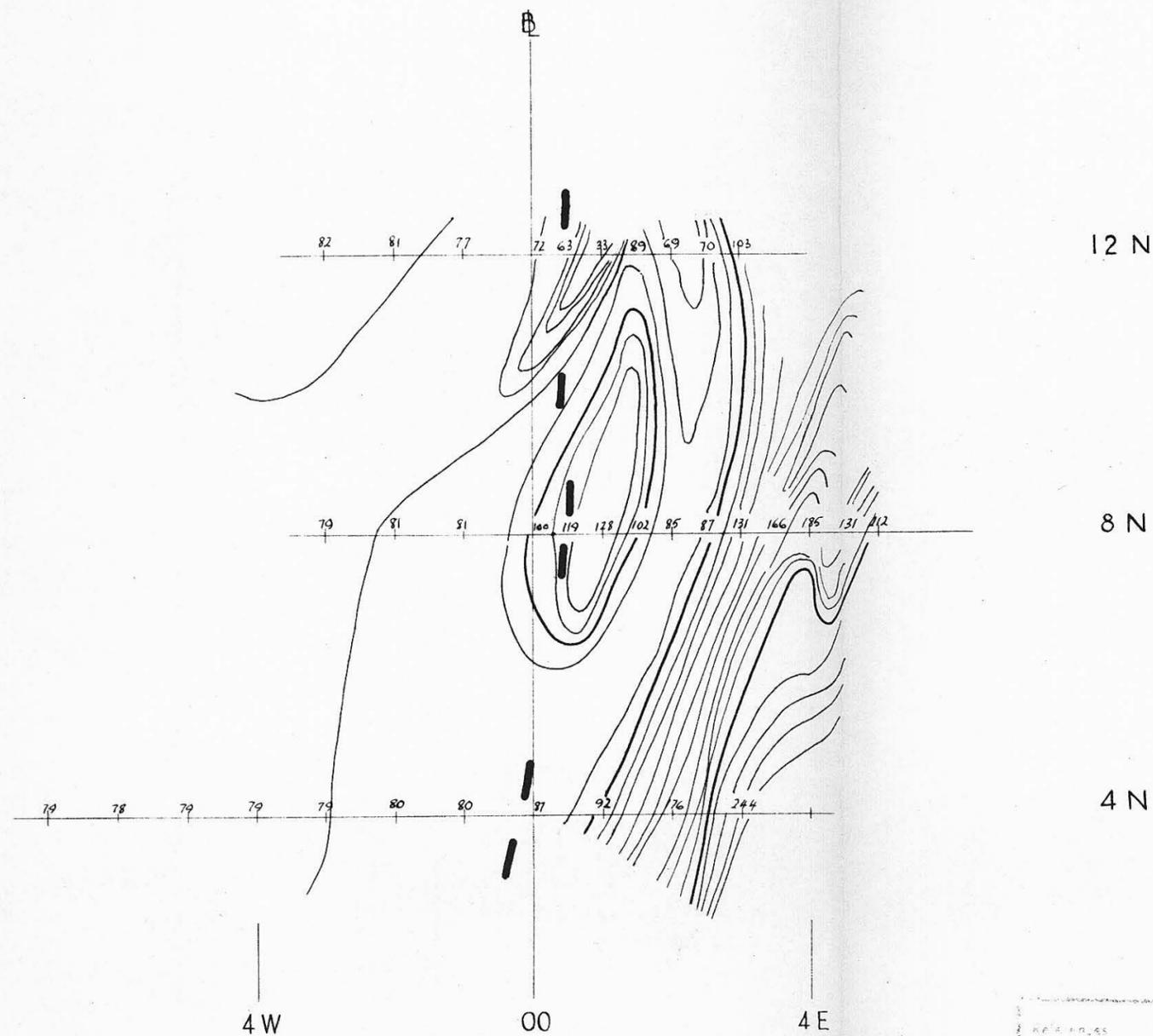
approx North

363024

5 cm

59-279

References		LYELL E.Z. EXPLORATIONS			
		QUEENSTOWN			
		ANOMALY 10/4			
Surveys				Scale	
Geology				Hor. 200 ft. to 1 inch	Q19
Geophysics	I.M.S., T.N.B.	Feb. '59			
Geochemistry				Vert. 20° to 1 inch	Checked by: <i>[Signature]</i>
Drawn	J. Boniwell	Feb. '59			
Traced	J.R.G.	Mar. '59			
VERTICAL COIL					



12 N

8 N

4 N

4 W

00

4 E

approx. North

363025

5 cm

59-279

LYELL E Z. EXPLORATIONS
QUEENSTOWN

ANOMALY 10/4

C. I. 10° of swing
≈ 466 γ

DIP CIRCLE

Survey			Scale	200 ft. to 1 inch	Sheet Q19 No. 15
Geology					
Geophysics	R.G. Elms	Feb. '59			
Geochemistry					
Drawn	J. Boniwell	Feb. '59			
	J.R.G.	Mar '59			

12.7.59

017 LYELL - E.Z. - EXPLORATIONS

Q64

MICROFILMED

28th April, 1959

To: Mr. G.F. Hudspeth

Anomalies 10/3b & 10/4a

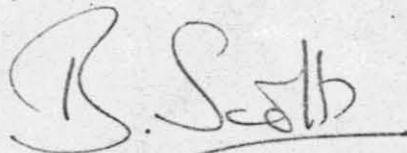
The accompanying reports describe the geological and geophysical setting of airborne anomalies 10/3b and 10/4a. Anomaly 10/3b is located on the western portion of the grid, with 10/4a on the eastern side.

Geologically the area is one showing ultrabasic intrusives placed within sediments of the Dundas Group. The ultrabasics here form part of the Modder River belt of ultrabasics which exist along the Dundas/Precambrian boundary from just north of Point Hibbs to Asbestos Point on Macquarie Harbour. Strong shearing is evident within these intrusives, particularly at their contact with the country rock, with the development of talc and other hydrated micaceous minerals in these shear zones. The electromagnetic anomalies are related to these shears and the geological and geophysical evidence indicates that the conduction is largely ionic.

The geochemical results show a generally high chromium content in the soil samples which were collected on the ultrabasics, supporting the contention that the intense magnetic anomaly associated with these intrusives is due to chromite, with some magnetite. Nickel values, which occur up to 0.1% in the soil samples, are not as widespread as the associated chromium values and are primarily restricted to the western intrusives on lines 14 and 16. These values do not show any direct relationship to the shear zones which traverse this area. On the basis of the absence of any gravity expression across these anomalous zones, and the absence of sulphide mineralisation in the trenches blasted across the same area, the nickel, presumably occurring as sulphides, must be highly disseminated throughout the rock mass.

Conclusions

On the basis of the results contained within this report, no further work is warranted on anomalies 10/3b and 10/4a.



Chief Geologist, L.E.E.

LYELL - E.Z. - EXPLORATIONS

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I. GEOLOGY SECTION - ANOMALIES 10/3b & 10/4a

1. Date of Investigation: 2.12.58 to 3.2.59
2. Man Days in the Field: 295
- Personnel: Geologist: R.G. Elms
 Bushmen: T. Burrell
 G. Seymour
 K. Morrison
 M. Maywood
3. Location: Some 6 to 7 miles due NW of Birch Inlet camp.
- a. Anomaly 10/3b runs 1000' north and south of a point 1400'E of photo-centre 12/890/74
- b. Anomaly 10/4a is 4200' distant on a photo-bearing of 070° from photo-centre 12/890/74.
4. Topography: See Regional Report.
5. Geology

A. Anomaly 10/3b has a slightly different geological setting to anomalies 10/4 and 10/4a. Although it occurs in the western serpentinitic mass, the anomaly is not as near to the Dundas-serpentinite contact as the other two anomalies.

Extensive test holing has revealed a broad zone of shearing some 200' wide located between a point midway between 14W/11 and 14W/10 and a point 50'W of 14W/12.

The serpentinite within the shear zone is variably coloured, ranging from a dark greenish-blue to a light greenish-yellow. It is very friable, soft, foliated and quite wet. Often grooved surfaces are present.

Relatively weak limonite staining was apparent on joints and shear planes, and occasionally grains of chromite were noted.

Conclusions: The shear zone described, and perhaps sub-parallel related ones are suggested as the cause of anomaly 10/3b.

B. Anomaly 10/4a lies in an identical geological setting to anomaly 10/4. That is, it is within the serpentinitic mass, although right at the Dundas-serpentinite contact.

The serpentinite immediately east of the anomaly area is a hard

crystalline light green rock with occasional white quartz veins present.

Test holing at a point 40' east of 18E/18 revealed a very strong, wet, talcose shear zone, of the order of 20' wide, entirely within the 'serpentinite', though extremely close to its contact with the Dundas sediments.

Conclusions: The certain cause of this anomaly is the very strong wet talcose shear mentioned above.

The similarities of the shear zones seen at 10/4a and 10/4 force the conclusion that they are one and the same.

out geophysical investigations.

Less than two complete days were spent in geological mapping. The following report is therefore brief and incomplete.

Robert G. Elms

These three anomalies were treated in one investigation for convenience and because photo-interpretation indicated similar geological settings.

The conclusions as to possible causes were checked by trenching and by placing test holes in the areas indicated by the geophysical ground clay.

Proterozoic

The Proterozoic rocks seen lie entirely to the west of the Madar River, and therefore to the west of the area investigated.

Except near the Madar River itself, no outcrop was encountered in the Proterozoic belt, but fragments of rock found included quartzite, quartz-graphite schist, shale and limestone.

The quartzite and shale constitute the bulk of the sequence, the quartz-graphite schist comprising a very minor part. Limestone was found at two points only (analysis in Table 1).

TABLE 1

	CaO	SiO ₂	Al ₂ O ₃	MgO
Madar River Limestone	41.05	37.10	15.6	5.31

The analysis of this limestone shows that it falls just within the calcitic limestone category. The outstanding feature is the high silica percentage which may be due to the presence of chert or which may be a result of silicification.

The first point where the limestone was found was near the west end of the Madar River on line 26. The limestone here was gray in color and very hard. The dip and strike of any bedding was indistinguishable in

