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MELBOURNE OFFICE

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EXPLORATION LICENCE 13/65 SOUTHWEST TASMANIA

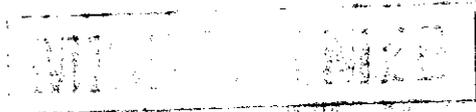
PROGRESS REPORT NO.1 - MARCH-JUNE, 1965

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Geological and geochemical exploration in  
the area between Bathurst Channel, Cox Bight,  
and South West Cape.

see 66-443 for sample locations

By



W.D.M. Hall

MELBOURNE

SEPTEMBER, 1965.

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to  
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241004

SUMMARY

The area described is situated in the extreme south west corner of Tasmania. The local geography, methods of work, and results of previous investigations are briefly discussed.

The rocks described are divided into Older, Younger, and Youngest Groups, and with the possible exception of the Youngest Group are considered to be Pre Cambrian. They consist of quartzite, schist, and conglomerate of low rank regional metamorphism, and have been intruded by granite which is exposed at two localities.

The metamorphic and structural features have been analysed, and indicate that the rocks were deformed during three periods of folding and one period of tilting.

Two small tin-bearing areas are described, and four further areas of surface mineralisation noted.

A total of 582 geochemical samples were collected and analysed for Sn, Cu, and Zn content. The results are discussed and 19 anomalous areas delineated.

It is concluded that work should continue in the same manner as that already adopted.

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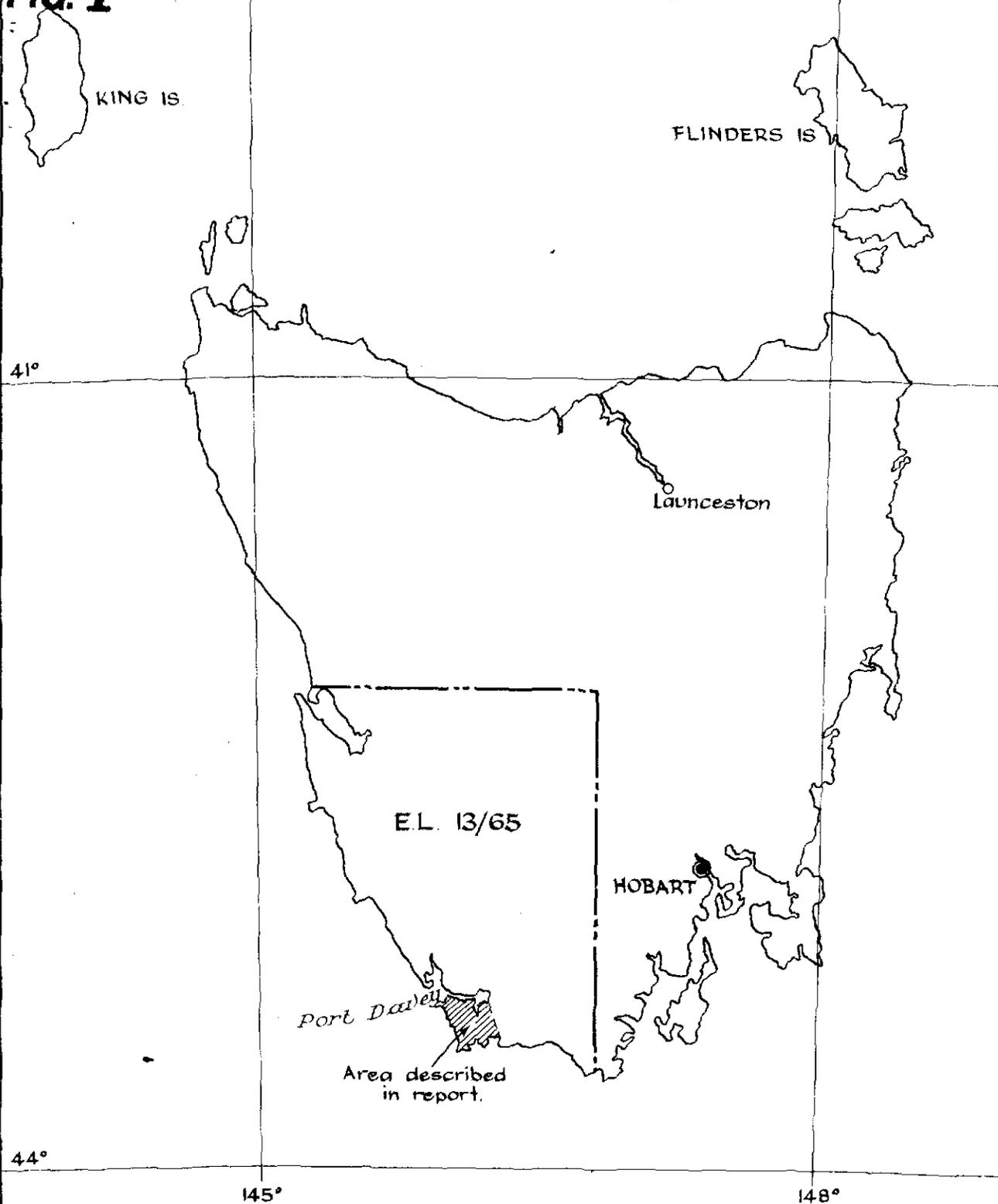
**FIG. 1**

145°

241005

148°

004



41°

Launceston

E.L. 13/65

HOBART

*Port Davey*

Area described  
in report.

44°

145°

148°

**LOCALITY MAP  
TASMANIA**

Scale 1 Inch = 40 Miles

5 cm

241006

INTRODUCTION

The area described was examined as the first stage in the Southwest Tasmania project, and was essentially a field trial of the various support and exploration techniques, particularly geochemistry, intended for use during the remainder of the program in the 6,000 square miles covered by E.L.13/65.

The area is located in the extreme south west corner of Tasmania, and extends from Breaksea Island, at the entrance to Bathurst Channel, to Southwest Cape, east to the eastern side of Cox Bight, and northwest along the western slopes of the Bathurst Range to Melaleuca Inlet. It is bounded in the north by Bathurst Channel. (See Figure 1).

The area was chosen because of the known presence of granite and of mineralisation, the relative freedom from scrub, and the available support facilities which included an airstrip, suitable base camp, an outpost radio station, water transport, and a landing jetty.

The topography varies from large, open plains to prominent north-north-west trending ranges which rise to 2,000 feet above sea level. Parts of the area are covered by dense scrub and Eucalypt forest, but button grass and heath are the dominant vegetation cover and extend from sea level to the mountain tops. This variety of topography and vegetation cover made the area an ideal testing ground in which to iron out and anticipate many of the problems relating to field work in Southwest Tasmania.

A party of six men (one geologist and five field assistants) spent twelve weeks in the area between late March and mid-June, 1965. They were initially based at

the Hobart Bushwalkers' Club hut at the head of Melaleuca Inlet, and later moved to the Mines Department house lower down the inlet. This proved a most suitable base camp, and was ideally situated for boat and helicopter operations.

The party was supplied by light aircraft and a fishing boat from Hobart, and maintained radio contact with the Tasmanian Hydro Electric Commission's helicopter base and Hobart Radio.

Geological and Geochemical field work was supported by a small boat and helicopters, and later by a Haflinger. The usual method of working was to have parties placed in the field by boat or helicopter, and then traverse overland to the base camp or "pick-up" point, back-packing supplies and utilizing tent camps.

Despite the generally adverse weather and thick scrub belts the party quickly adapted itself to the conditions, and covered approximately 150 square miles with geological mapping, and collected 582 geochemical samples in covering an area of approximately 80 square miles. Much of the time was spent, of necessity, on base camp maintenance work, and on the processing and plotting of samples and geological information.

Aeromagnetic work is being undertaken by Aero Service Ltd., who had flown 4,375 acceptable line miles up to early May, 1965, when the work was suspended due to poor weather.

The airborne geophysical work originally undertaken for Lyell-E.Z. Explorations is being re-examined. The aeromagnetic tapes have been mislaid, but those for E.M. are being re-interpreted in conjunction with the E.M. contour maps.

3.

In addition to the work already completed in E.L.13/65 a small geological party is at present operating at Adamsfield.

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GEOLOGY

(See Plan No.1)

INTRODUCTION

The results of the previous geological investigations in the area are described in published and unpublished reports by Twelvetrees (1906), Nye (1927; 1928), Keid (1949), Baker (1957), Everard (1957), Stefanski (1957a; 1957b), Jennings (1960), and Spry and Baker (1965).

Twelvetrees, Nye, and Stefanski (1957a) describe the small tin-bearing areas, but apart from the work of Jennings, and Spry and Baker the above reports contribute little to the regional geology except a large number of misleading stratigraphic terms, and make no real attempt to interpret the complex structure.

Stefanski's regional map has been examined, and shows a large number of conjugate faults, most of which the writer believes to be non-existent.

STRATIGRAPHY

The rocks described are divided into three groups (Older, Younger, and Youngest) on lithological and structural grounds. With the possible exception of the Youngest group they are all considered to be Pre Cambrian, but in the absence of age determinations and fossil evidence no absolute ages can be assigned with confidence.

The rocks consist of low-rank, regionally metamorphosed quartzites and quartz schists with interbedded pelitic schists, and smaller areas of conglomerates and greywacke facies turbidites. There are two small areas of granite with associated hornfels.

No attempt will be made to name formations until a larger area has been investigated, and officers of the Tasmanian Geological Survey have been consulted.

The economic implications of the various lithological units are dealt with in the section on Economic Geology.

### Youngest Group

Rocks of the Youngest Group crop out only at Telopea Point at the southern end of the Amy Range. They are about 500 feet thick, and consist of a basal breccia passing up to pebble conglomerate and turbidites composed dominantly of argillite.

The basal breccia contains irregular blocks of quartzite and quartz-schist derived from the immediately underlying rocks of the Older Group, and rests unconformably on them. The finer beds are slightly schistose (quartz-chlorite to graphitic).

These rocks are isoclinally folded along horizontal, east-west striking axes, and have sharp-crested kink folds developed on all limbs.

### Younger Group

Rocks distinguished as Younger Group are exposed in the Balmoral Hill - Mt. Beattie area between Horseshoe Inlet and the eastern end of Bathurst Channel, and on the Celery Top Islands. They are divided into two distinct lithological units, conglomerate and turbidites.

The conglomerate crops out along the east side of Horseshoe Inlet, at Mt. Beattie, and on the Celery Top Islands. It is massive, at least 3,500 feet thick, and composed of well rounded pebbles of quartzite and quartz

schist up to six inches across. The pebbles are often distorted and crimped, and a vertical cleavage is developed in the finer pelitic beds.

The conglomerate is mapped as resting unconformably on rocks of the Older Group just west of the entrance to Melaleuca Inlet.

The turbidites are exposed along Bathurst Channel east from Clyde Bay, and conformably overlie the conglomerate. They are at least 1,500 feet thick, and consist of graded-bedded sequences of fine to medium grained quartz pebble conglomerate, greywacke sandstone and argillite, and are altered to quartz-chlorite schist and phyllite.

The pelitic beds have a well-developed, vertical slaty cleavage which is parallel to the axial planes of mesoscopic folds of four amplitudes. A distinct lineation, plunging vertically to steeply south, is developed on the cleavage planes.

#### Older Group

Rocks of the Older Group are by far the most widespread in the area mapped, and are dominated by quartzite and quartz-sericite schist. Interpretation of the structure of these rocks is based largely on their metamorphic features (i.e. foliation, lineation, mesoscopic folds) as reliable marker beds cannot be traced any great distance away from coastal sections.

The only section on which a tentative stratigraphy can be based is exposed along the south coast from Telopea Point to Cox Bight. The rocks dip steeply west and have a steep, south-west plunging lineation and individual beds are complexly deformed. The top of the section is inferred to be to the west.

7.

Geological Section, South Coast

<u>Top</u>		<u>Thickness in Feet</u>
1.	Massive, thick-bedded, white to pale green quartzite and quartz schist with thin bands of finely-bedded quartz-chlorite-sericite schist.	- 1,500
2.	Finely-bedded white to pale green quartz chlorite-sericite schist.	- 500
3.	Finely-bedded green to purple quartz-muscovite-epidote schist.	- 300
4.	Finely-bedded quartz-chlorite-sericite schist.	- 200
5.	Massive, thick-bedded quartzite and quartz-schist.	- 500
6.	Finely-bedded quartz-chlorite-sericite schist.	- 500
7.	Massive, thick-bedded quartzite and quartz schist.	- 200
8.	Finely-bedded quartz-chlorite-sericite schist.	- 500
9.	Finely-bedded, black to dark grey graphitic schist.	- 500
10.	Finely-bedded, pale-green quartz-chlorite-sericite (-muscovite-epidote) schist.	- 3,500
11.	Graphitic schist.	- 700
12.	Finely-bedded quartz-sericite schist with thin bands of pelitic chlorite schist.	- 1,500
13.	Massive, thick-bedded quartzite and quartz-chlorite schist, with thin bands of finely-bedded quartz-sericite schist.	- 3,000

## Fault at New Harbour.

		<u>Thickness in Feet</u>
14.	Pelitic and sub-pelitic quartz-chlorite schist.	- 100+
15.	Finely-bedded quartz-sericite schist	- 3,000
16.	Pelitic quartz-chlorite schist	- 800
17.	Massive, thick-bedded quartzite and quartz schist with bands of finely-bedded quartz-sericite schist.	- 10,000

Probable fault at Cox Bight.

Division of the Older GroupMassive Quartzites

These are white to pale green quartzites and quartz schists, commonly in beds six inches to three feet thick. They are frequently cross-bedded and finely-laminated, and often interbedded with finely-bedded quartz-sericite schist. They are the least obviously deformed of the Older Group, rarely being mesoscopically folded and having no pronounced lineation.

The massive quartzites are most prominently developed along the west coast from Window Pane Bay to Karamu Bay, in the hills immediately west of New Harbour, and in the New Harbour Range and north along the western slopes of the Bathurst Range.

Quartz-Sericite Schist

Finely-bedded, white to light green quartz-sericite schist is the most widespread rock unit. The assemblage also includes quartz-muscovite and quartz-muscovite-epidote schist, and thin bands of quartz-chlorite schist.

These schists occur in bands one tenth of an inch to one inch thick, and are usually complexly deformed by a variety of fold styles and, particularly along the south coast, have a well developed second schistosity.

In thin section (M.1271) a specimen from Melaleuca Inlet consists of a fine-grained mosaic of quartz with thin, parallel trains of muscovite.

#### Quartz-muscovite-epidote schist

The finely-bedded quartz-muscovite-epidote schist (probably derived from a tuff of intermediate composition) has a flakey to granular appearance, and a mottled green and purple colour. It crops out along the east side of Wilson Bight as a belt 1,500 feet wide, and on the west side of Ketchem Bay where it is only 300 feet thick, and is mapped as extending around the axis of the Amy Range Synform.

The schist has a poorly developed lineation, and is not obviously mesoscopically folded.

#### Graphitic Schist

Finely bedded graphitic schists crop out as north-west striking belts at Ketchem Bay and in the bay immediately west of New Harbour. They are black to dark grey, and contain rare, thin bands of foliated pelitic schist.

They are complexly folded, and have a prominent second schistosity which is parallel to the axial planes of the mesoscopic folds, and cuts the earlier foliation.

#### Pelitic and Sub-Pelitic Schist

Finely-bedded, foliated quartz-chlorite-muscovite and quartz-chlorite schists occur between Hilliard Head

and Hannants Inlet and adjacent to New Harbour.

Between Hilliard Head and Hannant Inlet they form complexly deformed belts interbedded with finely-bedded quartz schist. At New Harbour and in the bay immediately to the east the unit consists of foliated quartz-albite-chlorite schist with thin quartz veins. Locally the original graded bedding is visible and is parallel to the first schistosity. A very prominent second schistosity has developed parallel to the axial planes of the mesoscopic folds.

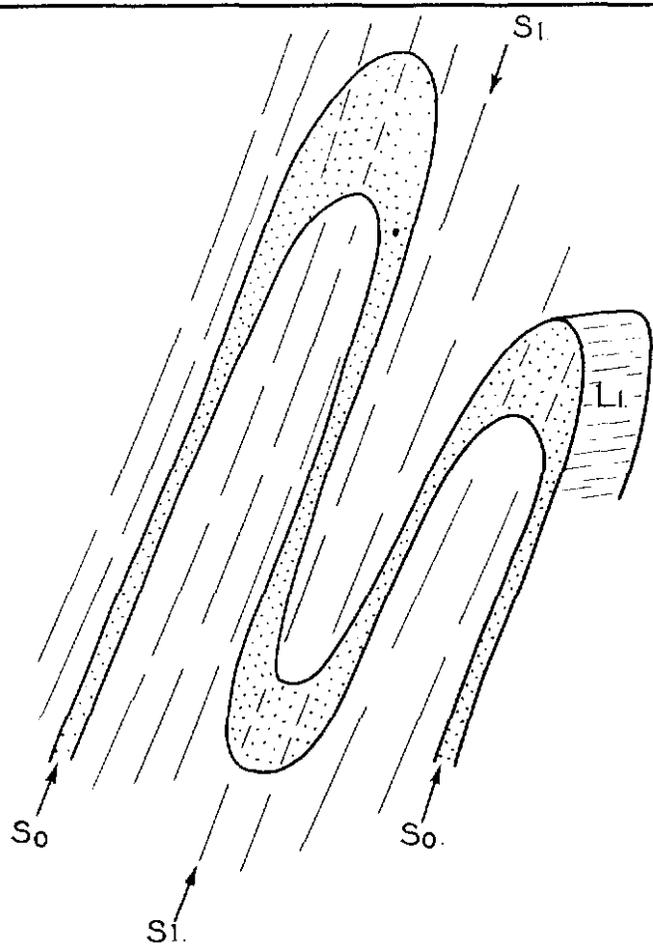
Rocks classed as sub-pelitic schist, consisting of finely-bedded quartz-chlorite schist, crop out in the hills just north of New Harbour. They are noticeably darker than the typical finely-bedded quartz schists, and occur as thin plates of quartz schist with a thin, but prominent film of dark green to black chlorite. They have a pronounced second schistosity.

#### Granite and Hornfels

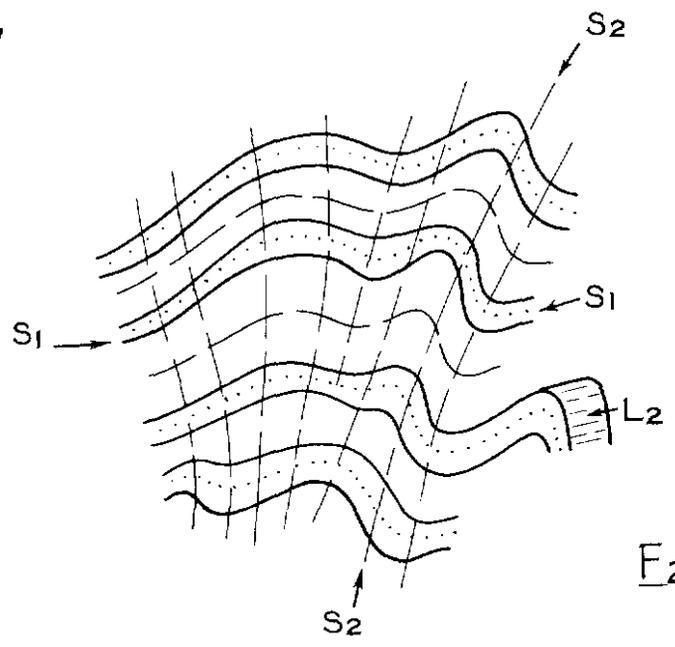
Two small areas of granite, both with contact aureoles, occur at South West Cape and Cox Bight.

The South West Cape granite is a coarse-grained, leucocratic, biotite granite with rare muscovite. It is strongly jointed parallel to the regional strike, and has a poorly developed foliation. The boundary with the country rock is sharp and clearly defined, but thin streaks of sediment are enclosed by granite close to its margin.

The country rock is a light and dark banded quartz-biotite hornfels derived from thick-bedded quartzite and quartz schist, and is cut by a number of thin granitic dykes.



$F_1$  FOLDS



$F_2$  FOLDS

TYPICAL FOLD FORMS

The Cox Bight granite is a medium to fine grained, leucocratic, biotite granite with rare muscovite. A thin section (M.772) shows that it is potash rich, and contains quartz, orthoclase, biotite, and rare albite-oligoclase and muscovite.

It also has a clearly defined margin, and a contact aureole of quartz-biotite hornfels derived from thick-bedded quartzite and quartz schist. A boulder of greisen was found near the granite margin.

## STRUCTURE

### Introduction

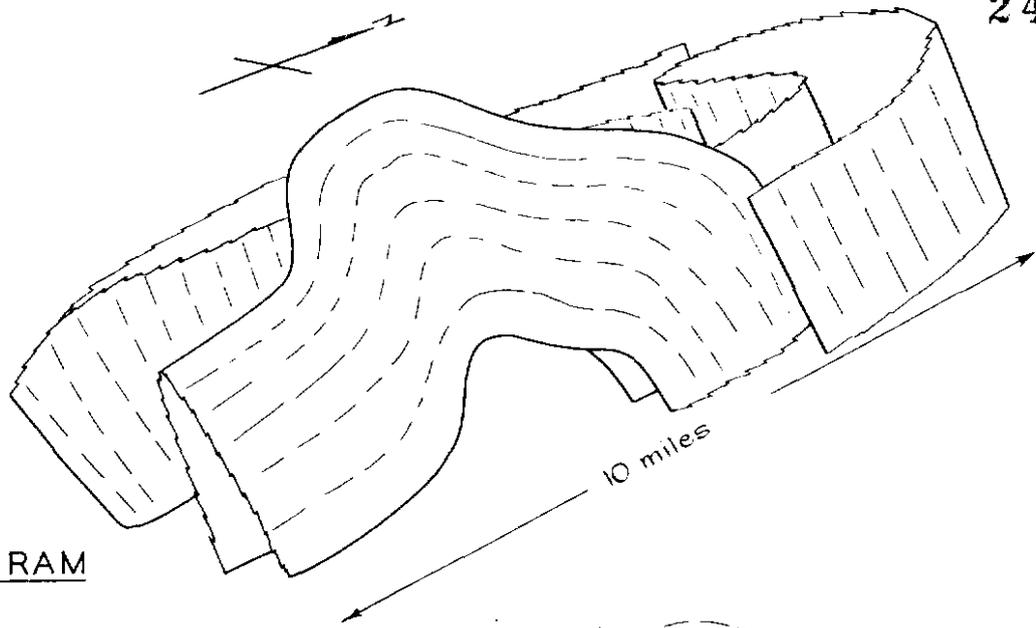
The following terms are used in describing the structural features. (See Figure 2).

### S Surfaces

- S<sub>0</sub> - Lithological layering of sedimentary origin.
- S<sub>1</sub> - First formed schistosity (or foliation), generally parallel to S<sub>0</sub> except at fold hinges, and resulting from regional (load) metamorphism.
- S<sub>2</sub> - Strain-slip (fracture, axial plane) cleavage transposed on S<sub>1</sub>, and formed during a second deformation.

### Lineations

- L<sub>1</sub> - Streaked mineral elongation on S<sub>1</sub> surfaces, parallel to the axes of F<sub>1</sub> folds (described below).
- L<sub>2</sub> - Sub parallel crinkles and streaked mineral elongation on S<sub>2</sub> surfaces.

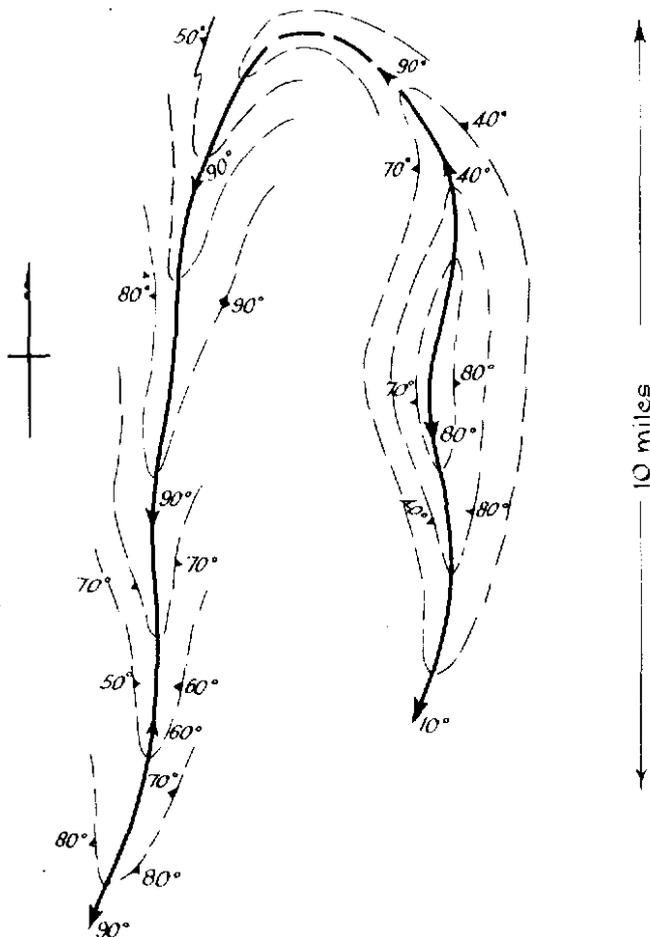


DIAGRAM

PLAN

- Antiformal axis.
- 90° Angle of plunge of axis.
- - - S1. foliation trend.
- ▲ 80° Dip of S1. foliation.

5 cm



DIAGRAMMATIC REPRESENTATION OF  
MELALEUCA RANGE AND  
SOUTH WEST CAPE RANGE ANTIFORMS

Folds

- $F_1$  - Folds in which  $S_0$  is the form surface, and in which  $S_1$  develops parallel to the axial planes. Generally compressed and isoclinal or recumbent, and with rounded hinges.
- $F_2$  - Folds in which both  $S_0$  and  $S_1$  are form surfaces, and  $S_2$  is parallel to the axial planes. Generally more open than  $F_1$  folds, and with both rounded and angular hinges.
- $F_3$  - Folds in which  $S_0$ ,  $S_1$ , and  $S_2$  may be the form surface. Expressed as cross folds in the older rocks, and as kink folds in the Youngest Group. Kink planes could possibly be described as  $S_3$ .

FoldsMelaleuca Range Antiform (See Figure 3).

The Melaleuca Range Antiform is a major  $F_1$  fold (i.e. formed during the earliest deformation) which has been deformed during later movements. The axis strikes north-north-west and extends from the head of Melaleuca Creek to the west side of Horseshoe Inlet. It is bounded on the east by the Horseshoe Fault, on the west by the Amy Range Synform, and to the south by the New Harbour Fault.

At its northern end the axis plunges steeply north, but to the south the plunge decreases and changes to a southward plunge. At the head of Alexandra Creek the axis plunges steeply, almost vertically south, but the plunge decreases to only ten degrees close to the New Harbour Fault.

The change in direction and attitude of plunge can be followed around the foliation ( $S_1$ ) trends which appear to form an elongate closure between Mt. Melaleuca and Horseshoe Inlet.

The lineation ( $L_1$ ) and two amplitudes of mesoscopic folds ( $F_2?$ ) are parallel to the axis of the antiform.

#### South-West Cape Range Antiform

The South West Cape Range antiform is a major  $F_1$  structure with an axis striking north-north-west. It extends from Bathurst Channel to Window Pane Creek, and along the crest of South West Cape Range to the headland between Wilson Bight and Karamu Bay, and is slightly displaced by a number of faults. It plunges steeply to vertically south, but just north-west of Wilson Bight it is slightly inverted and plunges steeply north.

The lineation ( $L_1$ ) and mesoscopic folds ( $F_1$ ) are concordant with the main structure and generally plunge vertically. Locally a fracture cleavage ( $S_2$ ) has developed at a slight angle to the main foliation ( $S_1$ ) direction.

The structure is interpreted as being the continuation of the Melaleuca Range Antiform which has been refolded and swings sharply south from Bathurst Channel.

#### Amy Range Synform

The Amy Range Synform is interpreted as a major  $F_2$  fold which has developed in the refolded area between the South West Cape Range and Melaleuca Range Antiforms.

The axis extends from Telopea Point north-north-west along the Amy Range to Window Pane Creek, and north along

14.

the range between Hannant and Horseshoe Creeks to Bathurst Channel, and plunges steeply to vertically south.

The structure is closed around its northern end between Telopea Point and Window Pane Creek, and north of Window Pane Creek both limbs are tightly compressed.

North of Window Pane Creek the lineation is steep and the mesoscopic folds appear to be  $F_1$  and related to the anti-formal axes to the east and west. To the south, however, the mesoscopic folds appear to be related to the synform, and are described as  $F_2$ .

Along the south coast the finer grained rocks on the east limb of the synform are cut by a prominent cleavage ( $S_2$ ) making an angle of between  $60^\circ$  and  $20^\circ$  with the foliation ( $S_1$ ).

#### Folds east of Horseshoe Fault

A number of folds are exposed between the Horseshoe Fault and Melaleuca Inlet. They are classed as  $F_2$  and generally trend north-south. The dips of the fold limbs are often gentler than those most commonly observed, and the lineation ( $L_2$ ?) is flatter and has a more variable plunge.

The northern end of the structures plunges to the north and the southern end to the south.

#### Folds east of Melaleuca Fault

Two north-west striking folds ( $F_2$ ) are developed in rocks of the Younger Group in the Balmoral Hill area. The original sedimentary bedding ( $S_0$ ) is still visible and the

tops of the beds can be readily observed. The fold axes plunge vertically to steeply south and are slightly inverted. The associated mesoscopic folds are concordant with the major axes.

A prominent vertical slaty cleavage ( $S_2$ ) has developed in the finer beds parallel to the fold axes, and is represented by a fracture cleavage in the coarser beds.

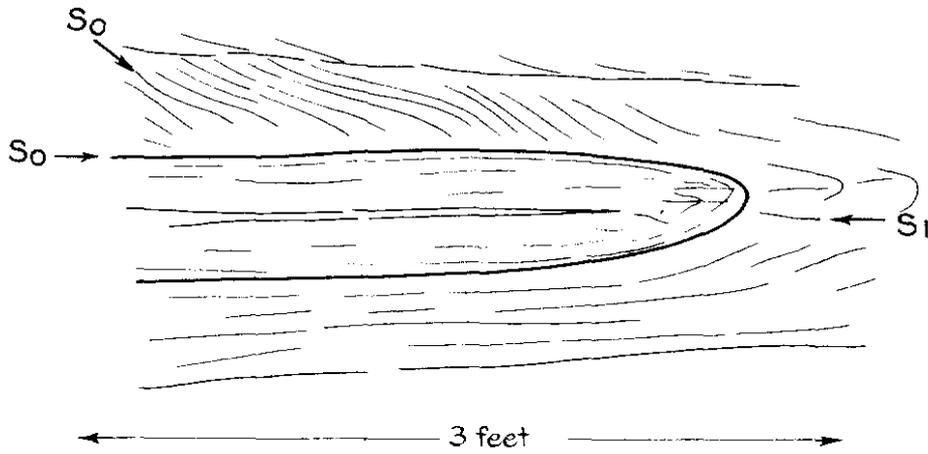
The southward continuation of these structures is represented by small folds ( $F_2$ , amplitude three feet) with a highly variable plunge in schists of the Older Group, and are well exposed at the entrance to Melaleuca Inlet.

#### Folds west of Hannant Fault

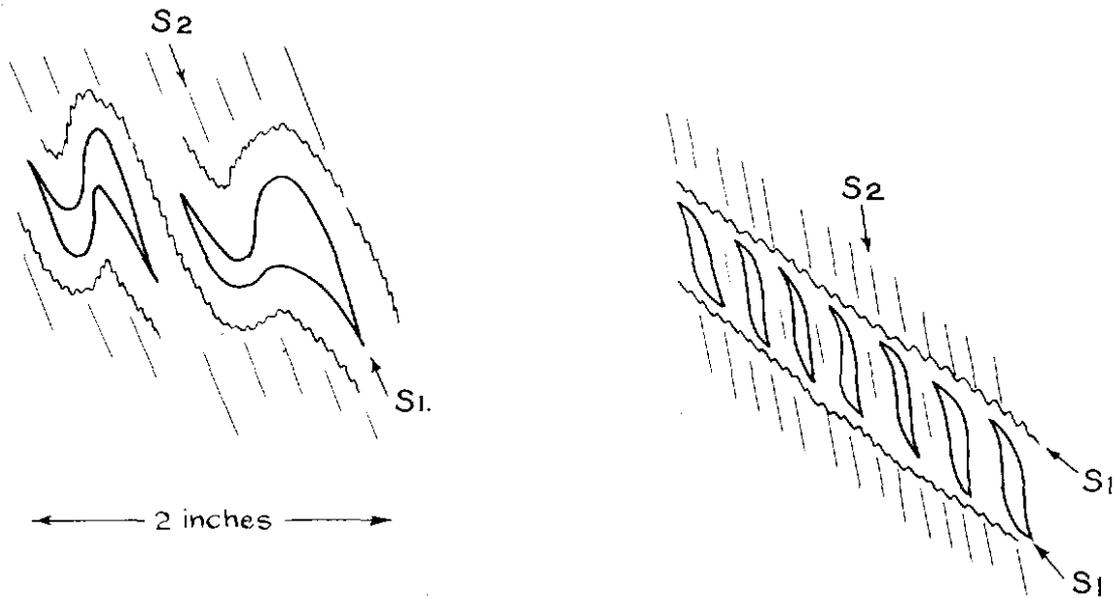
Three southward plunging folds ( $F_2$ ) have been mapped immediately west of the Hannant Fault. The lineation ( $L_2$ ) and mesoscopic folds are parallel to the major axes and plunge south at  $10^\circ$  to  $40^\circ$ . The folds are slightly asymmetric with axial planes dipping steeply west.

Similar mesoscopic folds ( $F_2$ ) with horizontal axes occur in finely bedded quartz-sericite-epidote schists at Window Pane Bay, and have a well-developed cleavage ( $S_2$ ) dipping steeply west.

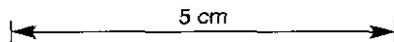
Three southward plunging folds ( $F_2$ ) are exposed on the headland west of Schooner Cove. The lineation and mesoscopic folds are parallel to the major axes and plunge south at  $10^\circ$  to  $40^\circ$ . Between Spain Bay and Hannant Inlet they appear to pass into a series of southward plunging isoclinal folds.



F1. FOLD IN QUARTZITE AT HALF WOODED HILL.



F2. FOLDS IN QUARTZ AUGEN IN QUARTZ-MUSCOVITE-EPIDOTE AT WINDOW PANE BAY.



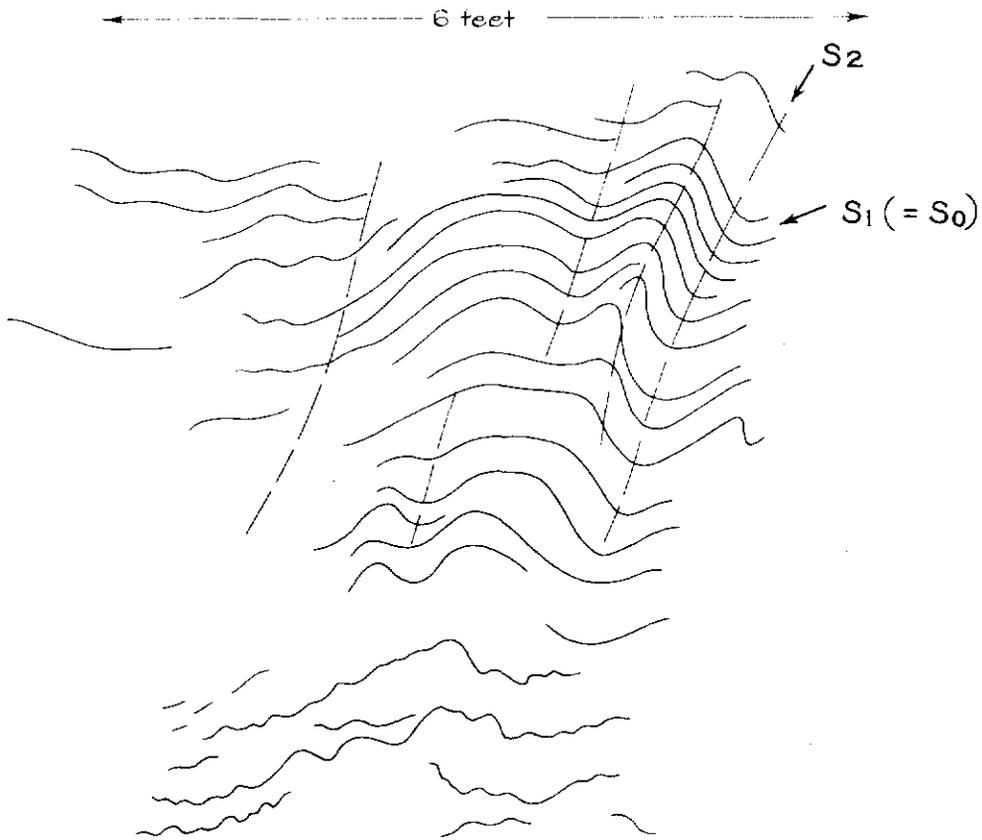
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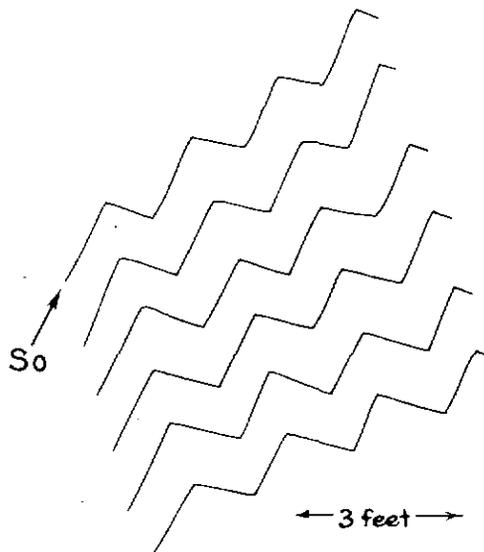
1 mile

SYNCLINAL  $F_2$  FOLDS IN ROCKS OF THE YOUNGER GROUP  
CLYTE BAY, BATHURST CHANNEL

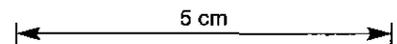
5 cm



F<sub>2</sub> FOLDS IN QUARTZITE AND QUARTZ - SERICITE SCHIST AT CHATFIELD POINT, STEPHENS BAY.



F<sub>3</sub> FOLDS IN PELITIC SCHIST OF THE YOUNGEST GROUP TELOPEA POINT



An antiform plunging east at  $10^\circ$  is exposed at Hilliard Head. Isoclinal folds are developed on the limbs, and although the antiform is faulted along its north limb it may represent the continuation of the antiform west of Schooner Cove.

Fold Style (See Figures 4, 5, and 6).

The style of folding varies between different localities and rock types, and to a large extent reflects the amount of deformation and geological history. All styles are developed on both regional and mesoscopic scales.

$F_1$  folds were the earliest formed, but because of the masking affect of the  $F_2$  deformation have been partly transposed and are difficult to distinguish. Clear  $F_1$  folds were observed on a mesoscopic scale at only two localities.

At Point Eric, Cox Bight, hornfelsed quartzite and quartz schist are folded into small recumbent folds (amplitude five to ten feet) with gently plunging axes. The form surface is clearly  $S_0 = S_1$ , and there is no penetrative cleavage.

At Half Wooded Hill, east of Moth Creek, gently dipping, cross-bedded quartzite contains a compressed recumbent fold of undetermined amplitude. The form surface is also  $S_0 = S_1$ .

$F_2$  folds are the most common observed. They vary slightly in shape, but all are associated with cleavage on kink planes ( $S_2$ ) cutting the form surfaces.

At Window Pane Bay finely-bedded quartz-sericite-epidote schist contains folds of two amplitudes (one inch and ten feet) with sub-horizontal axes. The quartz lenses ( $S_1$ ) are distorted into sigmoidal and hook shaped augen related to a penetrative cleavage ( $S_2$ ).

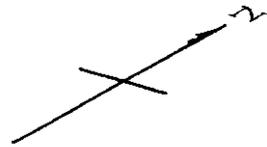
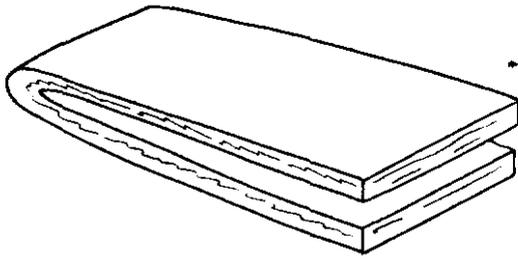
$F_2$  folds in coarser bedded quartz schist and quartzite interbedded with finely-bedded quartz-sericite schist are well exposed at Chatfield Point, Stephens Bay. They have rounded crests and distinct, penetrative kink planes ( $S_2$ ).

$F_2$  folds of four amplitudes (1 inch, 10 feet, 50-100 feet, and 1,300 feet) are developed in rocks of the Younger Group in the Balmoral Hill area. The form surface is the original bedding ( $S_0$ ), and is cut by a penetrative cleavage ( $S_2$ ) on the surfaces of which a distinct lineation ( $L_2$ ) has developed in the finer grained rocks.

$F_3$  folds are developed and mesoscopic scale only in rocks of the Youngest Group at Telopea Point. They are kink folds of two amplitudes (one and fifty feet) and have straight limbs and sharp crests. The axes are horizontal and strike east-west. The form surface is the bedding  $S_0$ . In the finer beds there is a slight vertical schistosity ( $S_3$ ) developed along the kink planes parallel to the axial planes.

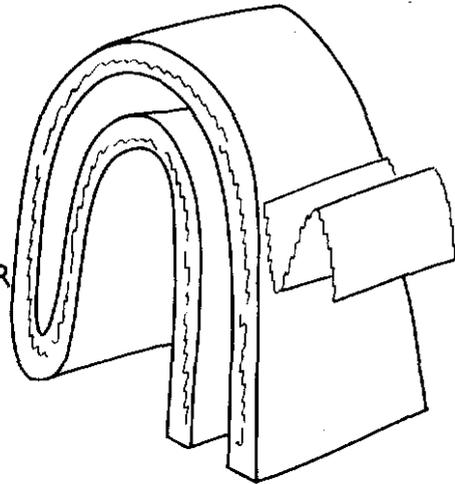
### Faults

Melaleuca Fault extends north-west from Melaleuca Inlet to Horseshoe Inlet, and forms a major geological boundary between rocks of the Older and Younger Groups. The fault plane is not exposed, but as the trace forms a straight line it is assumed to be very steep.

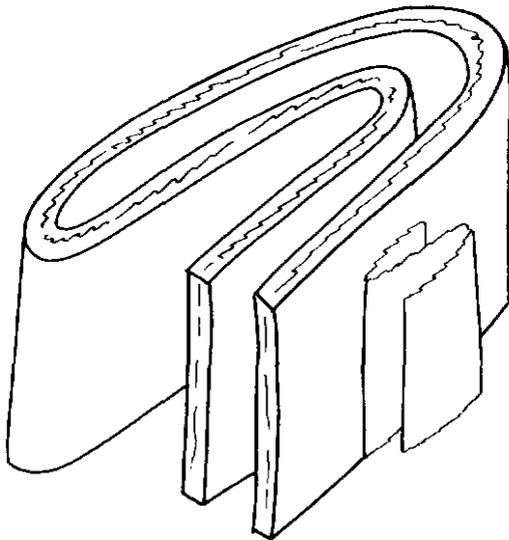


1. RECUMBENT  $F_1$  FOLDS DEVELOPED IN OLDER GROUP

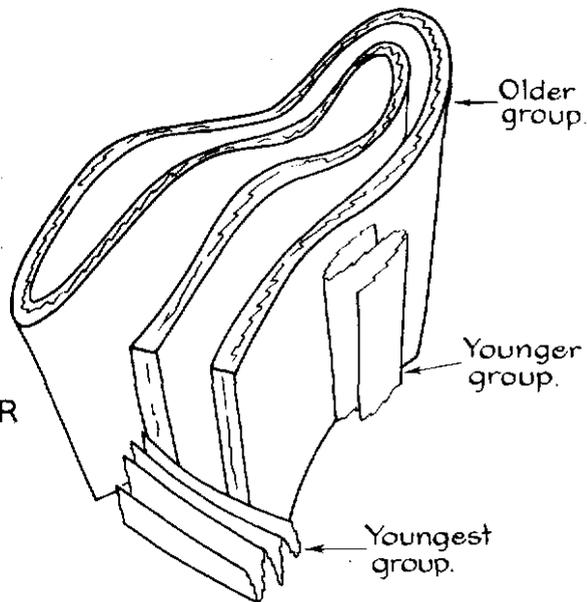
2. ISOCLINAL  $F_2$  FOLDS SUPERIMPOSED ON EARLIER FOLDS. OLDER AND YOUNGER GROUP DEFORMED.



3. DIFFERENTIAL TILTING.



4.  $F_3$  CROSS FOLDS SUPERIMPOSED ON EARLIER STRUCTURES. ALL GROUPS INVOLVED.



STRUCTURAL DEVELOPMENT

18.

Horseshoe Fault extends south-south-east along the east side of the Melaleuca Range. The fault trace is straight, and the fault plane is assumed to be vertical.

Hannant Fault extends from Hannant Creek south east to Window Pane Creek, and forms the western boundary of the South West Cape Range Antiform. The fault plane is exposed on a hillside a mile north of Window Pane Creek, and dips west at  $75^{\circ}$ .

Window Pane Fault extends south east from Faults Bay to the crest of South West Cape Range. The fault plane is exposed along the coast at Island Bay and is vertical.

New Harbour Fault is interpreted as extending north west from New Harbour to the Melaleuca Range. It forms the southern boundary of the Melaleuca Range Antiform, and is needed to explain the different foliation trends (both  $S_1$  and  $S_2$ ) on either side of New Harbour.

On the west side of Melaleuca Inlet a number of small faults have been mapped as extending along geological boundaries and topographic depressions. The faults adjacent to Wilson Bight were interpreted from air photos. The plane of one of these faults is exposed at Karamu Bay and is vertical. The fault east of Wilson Bight appears to displace the axis of the Amy Range Synform in a clockwise (dextral) direction.

Structural Interpretation (See Figure 7).

The following history of deformation appears to fit the metamorphic and tectonic features best, but there may be alternatives to the sequence of events described.

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1. Regional metamorphism and the forming of flat lying, north-south striking recumbent folds ( $F_1$ ). The form surface of the folds was  $S_0$  (the original bedding) of the Older Group, and  $S_1$  developed as a horizontal axial plane cleavage, substantially parallel to the  $S_0$  layering.

The rocks involved were later eroded to form the massive conglomerates and turbidites of the Younger Group.

2. The flat, recumbent folds of the Older Group and rocks of the Younger Group were folded isoclinally along north-south axes, forming the  $F_2$  folds.

The form surfaces of the  $F_2$  folds were  $S_1$  in the case of the Older Group and  $S_0$  in the case of the Younger Group.  $S_2$  developed as a vertical cleavage parallel to the axial planes of the  $F_2$  folds, which largely mask the  $F_1$  mesoscopic structures.

3. The  $F_2$  folds were differentially rotated along steep faults, and in some cases became vertically plunging structures.

The rocks of the Youngest Group were deposited on this already highly deformed basement.

4. All rock units and older structures were differentially folded by an essentially north-south compression. Rocks of the Youngest Group were kink folded along horizontal axes striking east-west, and the older structures developed east-west cross folds which, with earlier rotation, account for the variable directions of plunge.

5. Granite intrusion and the development of contact aureoles, and mineralisation.

The South West Cape granite may be older than that at Cox Bight, and possibly have been intruded before stage 4.

### ECONOMIC GEOLOGY

Two small tin-bearing areas occur within the area mapped, at Cox Bight and Moth Creek, and are summarised by Stefanski (1957a).

The Cox Bight tin area occurs as a thin alluvial cover on an old marine bench, and is derived directly from the Cox Bight Granite. Cassiterite, molybdenite and wolfram have all been found in small quartz veins in the granite and adjacent hornfels.

The history and nature of the tin area indicate that it does not warrant the attention of a large company. However, in view of the geochemical results (discussed later) the general area requires closer investigation for Zn-Pb group base metals.

The Moth Creek tin area is at present being worked by Mr. D. King who obtains between three and four tons of 75% cassiterite concentrate a year. The alluvial deposits occur in a thin, irregular coves of sand and gravel overlain by peat, and appear to fill old stream channels.

The main interest in the area lies in the fact that the alluvial deposits directly overlie mineralised bedrock (quartz-sericite schist). Cassiterite and pyrites have been

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observed in the bedrock, which is also reported to contain sporadic sphalerite, antimony, tourmaline, monazite, and copper pyrites.

A diamond drill hole in this area would solve many of the problems related to the nature of the bedrock mineralization.

During field mapping surface mineralisation was discovered at the following localities:

1. Schooner Cove - abundant disseminated pyrites in finely-bedded quartz-sericite schist.
2. Wilson Bight - a possible copper-bearing mineral in quartz veins in quartz-muscovite-epidote-chlorite schist.
3. Telopea Point - hematite augen in massive quartzite.
4. Cox Bight - thin quartz veins carrying molybdenite on the west side of the granite.
5. Moth Creek - further massive pyrites in quartz-sericite schist.

Samples of the mineralised rocks from three of these localities were forwarded to A.M.D.L., and semi-quantitative spectrographic analyses gave the following determinations. (Quantities are given in p.p.m.).

	<u>Moth Creek Tin Field</u>		<u>Telopea Point</u>	<u>Wilson Bight</u>
	(1.)	(2.)	(3.)	(4.)
Cu	300	300	8	4000
Pb	250	70	7	120
Zn	30	25	20	50

	<u>Moth Creek Tin Field</u>		<u>Telopea Point</u>	<u>Wilson Right</u>
	(1.)	(2.)	(3.)	(4.)
Ag	1.5	2	0.1	12
Co	50	1	1	30
Ni	20	20	5	120
Sn	250	200	4	200
Bi	150	8	2	600
V	8	7	15	12
W	30	25	20	25
Mo	6	3	3	2
Ga	12	2	5	15
Ge	3	4	1	2
As	10.3%	2000	400	600
Sb	200	150	30	30
Mn	25	150	20	15
B	500	200	12	1200
Tl	3		3	7
Zr	100	70	300	400
Ba	250	400	1500	100
Sr	20	15	500	120
P	150	200	200	150
La	150		200	1000
Ce	400		1500	2000
Rb	100	300	30	160
Li	120	300	80	250
Cr		2000		

Elements not detected were Au, Cd, Be, In, Pd, Os, Pt, Ir, Rh, Ru, Nb, Ta, Te, Cs.

Cr was not looked for in 1, 3, and 4. No.2 was examined in thin and polished section (Petrological Report No. M.13/65) and contains arsenopyrite and pyrite, and traces of ilmenite and rutile.

The Pre Cambrian quartzites and quartz schists of Tasmania are generally not considered to be favourable host rocks for mineralisation. However, this generalisation is disputed by reference to the Moth Creek tin field where the quartz schist is mineralised and no granite, or other igneous rock is exposed. As mineralised quartzite has also been discovered at other localities (Telopea Point and Schooner Cove) it is likely that these rocks are more favourable than has previously been considered.

Geological mapping has also shown that other rock types, not previously reported, are interbedded with the quartzites, and some of these, particularly the quartz-muscovite-epidote-chlorite schist at Wilson Bight and the graphitic schists at Ketchem Bay, are regarded as very favourable host rocks for mineralisation.

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GEOCHEMISTRYINTRODUCTION

In order to place the geochemical survey in perspective the following comments are added to the two reports submitted by Barringer Research Limited. These comments are based on personal field experience and reference to literature on geochemical exploration techniques and results.

Geochemical reconnaissance to assess mineral potential rapidly eliminates unfavourable ground and delineates restricted areas of interest for examination by more intensive and detailed geological, geophysical, and geochemical surveys. This can only be done by obtaining a broad picture of metal distribution.

Stream sediment surveys are by far the most widely used in regional reconnaissance, and have been proved overseas in mineral exploration under a wide variety of conditions, including climatic and topographic situations similar to E.L. 13/65.

Stream sediment surveys give a good regional coverage for less mobile metals derived by mechanical erosion from parent rocks (e.g. Sn), and well as more mobile metals precipitated from stream and subsurface water (e.g. Mo, Cu, Zn). In all these surveys the background metal content must be determined, and can only be done by sampling areas that are known or presumed to be unmineralised.

Regional geochemical maps can be compiled from the multi-element data obtained from the samples collected during mineral reconnaissance. Such maps are complementary to regional geological maps, and together with them assist in the full assessment of the mineral potential of the areas

investigated.

A regional geochemical survey commonly discloses a great number of anomalies. A reliable interpretation of these requires a working field knowledge of the geology, as the background metal content of the stream sediments usually directly related to bedrock geology.

Many anomalies are related to sub-economic mineralisation, some to high background rocks (e.g. basic volcanics) and others to artificial sources of contamination (e.g. old mine workings), natural accumulation of metals unrelated to ore (e.g. seasonal swamps) or errors in technique.

A simple study of the geochemical data alone is never sufficient to warrant any prediction of the grade and tonnage of a bedrock metaliferous deposit responsible for an anomaly. The intensity of the stream sediment anomaly is a result of a number of complex factors including the total amount of soluble metal entering the surface drainage and available for absorption by the clays in the stream sediments.

Experiments in other parts of the world indicate that an anomaly is obtained in the -80 mesh fraction irrespective of the seasonal variation in stream flow and of the ratio between coarse and fine fractions in the stream sediment. The presence of abundant pyrite with ore minerals increases the rate of weathering and solution of such minerals compared to an equivalent source of pyrite-poor minerals. Similarly, the presence of limestone decreases solubility.

A strong anomaly may mean:

- (1) A large area of disseminated, low-grade mineralisation.
- (2) A large number of very small deposits of high-grade mineralisation.

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- (3) Small deposits of weakly mineralised but highly fractured rock that is unusually accessible to the leaching action of circulating ground water.
- (4) One or more large deposits of ore-grade mineralisation.
- (5) Remobilized material from "traps" such as seasoned bogs and artificial sources of contamination such as old mine dumps.

#### RESULTS OF GEOCHEMICAL RECONNAISSANCE

(See Plans 2, 3, 4, and 5).

A total of 582 geochemical samples were collected in the area discussed. They were taken from the finer sediments in the active stream beds, and were later dried and sieved into -80 and -30 +80 mesh fractions. The pH was recorded at each locality, and was constant at 5 throughout the area.

The samples were analysed by A.M.E.G. Pty. Ltd., Sydney, for total Sn content (-30 +80 fraction) using the atomic absorption spectrophotometric technique, and leachable Cu and Zn (-80 fraction) using the hot (0.5N) HCl extraction method. The results of the Mo analyses are not yet available, due to difficulties in refining the assay techniques.

Details of the samples, including location and analyses are tabulated later.

The data obtained from the analyses have been processed statistically in order to determine the medium and standard deviation. From this the analysed values of each metal (in parts per million) are grouped as follows:

Background Values - between zero and the median plus one standard deviation.

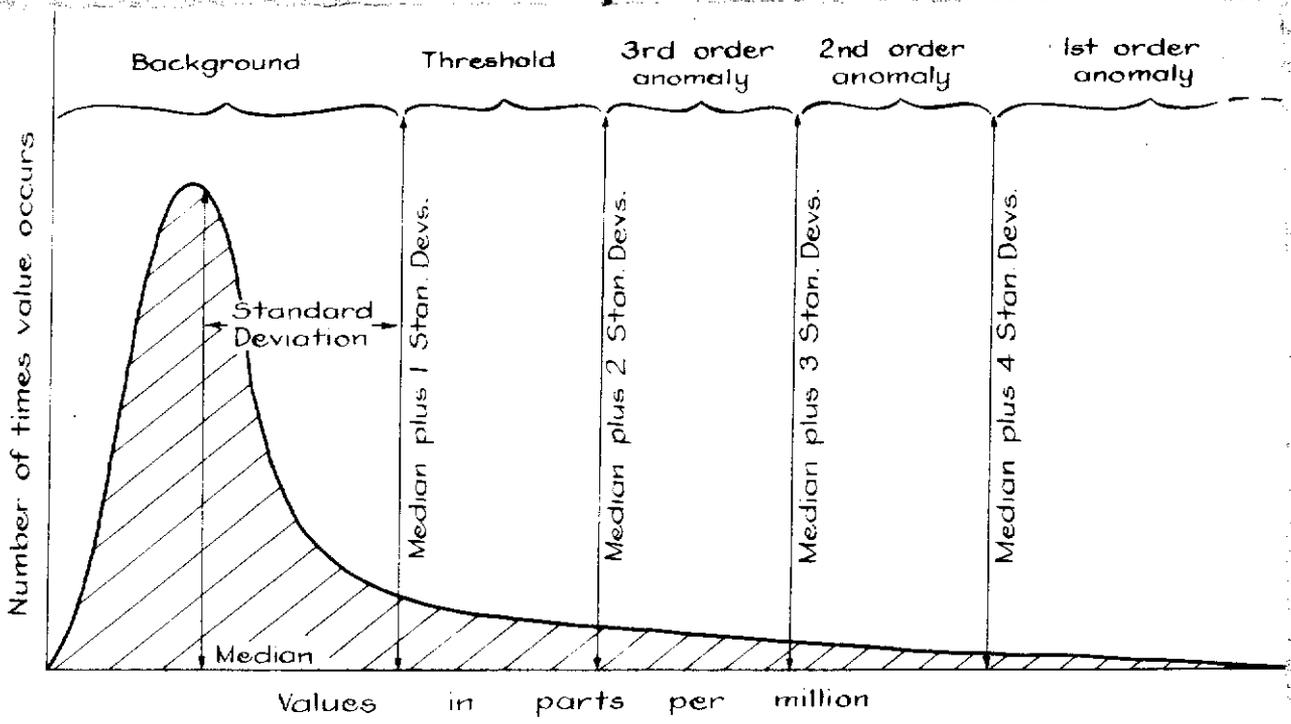
Threshold Values - between the median plus one and the median plus two standard deviations.

Third Order Anomaly Values - between the median plus two and the median plus three standard deviations.

Second Order Anomaly Values - between the median plus three and the median plus four standard deviations.

First Order Anomaly Values - greater than the median plus four standard deviations.

This method of determining the grouping of the values is illustrated graphically below.



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The following results (in p.p.m.) were calculated for Sn, Cu, and Zn.

	<u>Sn</u>	<u>Cu</u>	<u>Zn</u>
Background	0 - 43	0 - 9.5	0 - 7.25
Threshold	44 - 83	9.6 - 14	7.26 - 11.5
3rd Order Anomaly	84 - 123	14.1 - 18.5	11.6 - 15.75
2nd Order Anomaly	124 - 163	18.6 - 23	15.76 - 20
1st Order Anomaly	> 163	> 23	> 20

The values for Sn range from 2 to 360, Cu from 0 to 38, and Zn from 0 to 70 p.p.m., and are comparable with values recorded in other parts of the world.

From the 1,746 values obtained 56 (i.e. 3.2%) were found to be anomalous. There are 24 first order anomalies (12 Sn, 4 Cu, 8 Zn), 10 second order anomalies (4 Sn, 1 Cu, 5 Zn), and 22 third order anomalies (5 Sn, 17 Zn).

On the geochemical drainage maps the value for each sample is shown as a line drawn along the stream immediately upstream of the sample location. Background values are shown as single blue lines, threshold as single green, third order anomaly as single red, second order anomaly as double red, and first order anomaly values as triple red lines. Streams left uncoloured have yet to be sampled.

Nineteen "areas of interest" have been delineated from localities at which one or more anomalies of one or more metals occur.

These are shown on Plan 5, and are tabulated below.

Areas of Interest

1. East side of Hannant Inlet (Zn).
2. Between the southern end of Hannant Inlet and Hannant Creek (Sn, Cu, Zn).
3. Horseshoe Creek (Sn).
4. East side Horseshoe Inlet (Sn, Zn).
5. East of Mt. Beattie (Zn).
6. West side of Melaleuca Inlet (Sn, Zn).
7. West side of Melaleuca Inlet (Cu, Zn).
8. Alexandra Creek (Sn, Zn).
9. Moth and Melaleuca Creeks (Sn, Zn).
10. Between Moulters Cove and Melaleuca Inlet (Sn).
11. East of Moth Creek (Sn).
12. North-west of Mt. Karamu (Sn).
13. Wilson Bight (Zn).
14. Ketchum Bay (Sn).
15. New Harbour (Sn, Zn).
16. North-east of New Harbour (Cu, Zn).
17. Northern end of New Harbour Range (Cu, Zn).
18. Cox Bight (Zn, Sn).
19. East side Cox Bight (Zn).

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A full interpretation of these geochemically anomalous areas is beyond the scope of this report, and the writer's experience, and can only be done by consultants experienced in geochemical exploration. The desirable follow-up work on these anomalies will be determined after review with the consultant geochemist, but logistically could well await the defining of further anomalies in adjacent areas yet to be covered.

Conclusions can be tentatively drawn on three areas. The Cox Bight anomaly (18) is associated with a small tin-bearing area adjoining granite, but the discovery of a Zn anomaly west of the tin-bearing area gives the locality added significance. The Moth and Melaleuca Creeks area (9) is also associated with a tin-bearing area, while at Wilson Bight (13) surface mineralisation has been located (see section on Economic Geology) and the geology is regarded as favourable for mineralisation.

As geochemical sampling detected the localities of known mineralisation within the area described, and also gave anomalies over the known mineralised areas at Mt. Lyell and Renison Bell during orientation trials, it is considered that its use is now proven and it can confidently be extended to the remainder of the Exploration Licence area.

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CONCLUSIONS

The geological and geochemical reconnaissance has shown that areas which may, on superficial evidence, have been considered unfavourable to mineralisation require closer and more critical examination.

Geochemistry is considered to be the most reliable method of locating ore bodies, as geological mapping would fail to detect those without surface expression, and even the detection of all outcropping mineralisation would require excessive traverse density.

Geophysical work is less direct, more expensive, and less reliable in rapid coverage, but will be valuable when related to the geological and geochemical data.

Geological mapping will locate areas of more favourable host rocks, and will enable phases of potential mineralisation to be related to the complex structural events.

It is therefore strongly recommended that the geological and geochemical reconnaissance should continue in the manner already adopted.

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GEOCHEMICAL SAMPLES

<u>Sample No.</u>	<u>Locality</u>	<u>Mosaic</u>		<u>Collected</u>		<u>Photo</u>		<u>Analysis in P.P.M.</u>				
		<u>No.</u>	<u>"N</u>	<u>"E</u>	<u>Date</u>	<u>By</u>	<u>Run</u>	<u>No.</u>	<u>Sn</u>	<u>Cu</u>	<u>Zn</u>	<u>Mo</u>
A.1.	Between Mt. Brock and S. end of Melaleuca Inlet.	78	17 $\frac{7}{8}$	23 $\frac{1}{2}$	28.3.65	WDMH, JLW	S.W.	43	156	6	14	
2.		"	17	22 $\frac{3}{4}$	"	" "	39	"	300	6	8	
3.		"	16 $\frac{3}{8}$	21 $\frac{1}{4}$	"	" "	"	"	26	6	14	
4.		"	17	20	"	" "	"	45	2	6	*3	
5.		"	16 $\frac{1}{2}$	18 $\frac{1}{2}$	"	" "	"	"	34	6	4	
6.		"	15 $\frac{7}{8}$	18 $\frac{1}{8}$	"	" "	"	"	2	6	15	
7.		"	15 $\frac{1}{2}$	17 $\frac{3}{8}$	"	" "	"	"	216	6	16	
8.		"	15 $\frac{7}{8}$	17 $\frac{1}{2}$	"	" "	"	"	24	6	5	
9.		"	17 $\frac{1}{8}$	19	"	" "	"	"	30	8	4	
10.	+ one mile North of Samples 1-9.	"	16 $\frac{1}{2}$	17 $\frac{1}{2}$	29.3.65	AKH, JLW,	"	"	2	8	*3	
11.		"	16 $\frac{7}{8}$	16 $\frac{7}{8}$	"	LES.	"	"	114	6	12	
12.		"	16 $\frac{1}{2}$	17 $\frac{1}{2}$	"	" "	"	"	2	*5	6	
13.		"	16 $\frac{7}{8}$	17 $\frac{1}{2}$	"	" "	"	"	2	*5	*3	
14.		"	17 $\frac{1}{8}$	17 $\frac{3}{8}$	"	" "	"	"	2	*5	4	
15.		"	16 $\frac{7}{8}$	18 $\frac{1}{8}$	"	" "	"	"	4	6	5	
16.		"	17 $\frac{1}{2}$	18 $\frac{1}{8}$	"	" "	"	"	2	6	7	
17.		"	17 $\frac{3}{8}$	18 $\frac{1}{2}$	"	" "	"	"	2	*5	4	
18.		"	18 $\frac{1}{8}$	19	"	" "	"	"	2	6	7	
19.		"	17 $\frac{1}{2}$	19 $\frac{1}{8}$	"	" "	"	"	38	6	*3	
20.		"	17 $\frac{7}{8}$	20	"	" "	"	"	12	*5	*3	
21.	"	17 $\frac{1}{2}$	20 $\frac{1}{8}$	"	" "	"	"	26	6	3		
22.	West Side of Mt. Nares.	68	7 $\frac{1}{8}$	13	30.3.65	AKH, LES.	S.W.	72	2	8	*3	
23.		"	6 $\frac{1}{8}$	13 $\frac{1}{2}$	"	" "	37	"	6	8	*3	
24.		"	6	13 $\frac{1}{2}$	"	" "	"	"	6	8	11	
25.		"	6 $\frac{1}{2}$	13 $\frac{1}{4}$	"	" "	"	"	38	8	*3	
26.		"	6 $\frac{1}{8}$	12 $\frac{7}{8}$	"	" "	"	"	2	8	*3	
27.		"	5 $\frac{7}{8}$	12 $\frac{1}{2}$	"	" "	"	"	6	8	*3	
28.		"	6 $\frac{1}{8}$	12 $\frac{1}{8}$	"	" "	"	"	12	8	*3	
29.		"	6 $\frac{3}{8}$	12	"	" "	"	"	2	8	*3	
30.		"	6 $\frac{1}{8}$	12 $\frac{7}{8}$	"	" "	"	"	2	8	*3	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A. 31.	Bathurst Range.	78	14 $\frac{3}{8}$	26 $\frac{3}{4}$	31.3.65	JLW, LES.	S.W.	41	32	12	4	
32.		"	14 $\frac{1}{2}$	29 $\frac{1}{4}$	"	" "	39	"	32	10	*3	
33.		"	15 $\frac{3}{8}$	27 $\frac{1}{4}$	"	" "	"	"	2	7	*3	
34.		"	15 $\frac{7}{8}$	27 $\frac{1}{2}$	"	" "	"	"	2	7	3	
35.		"	16	27 $\frac{1}{2}$	"	" "	"	"	159	5	*3	
36.		"	16 $\frac{3}{8}$	27 $\frac{3}{8}$	"	" "	"	"	12	*5	4	
37.		"	17 $\frac{1}{4}$	28 $\frac{3}{8}$	"	" "	"	"	2	5	*3	
38.		"	17 $\frac{3}{8}$	27 $\frac{3}{8}$	"	" "	"	"	26	5	*3	
39.	Between New Harbour and King's Knob.	"	6 $\frac{1}{8}$	22 $\frac{3}{8}$	2.4.65	LES, JM.	S.W.	15	2	6	*3	
40.		"	6 $\frac{1}{8}$	22 $\frac{7}{8}$	"	" "	41	"	2	8	5	
41.		"	6 $\frac{1}{4}$	23 $\frac{3}{8}$	"	" "	"	"	2	5	*3	
42.		"	7	22 $\frac{3}{4}$	"	" "	"	"	2	8	*3	
43.	Mt. Nicholls	68	5 $\frac{1}{4}$	18 $\frac{1}{2}$	30.3.65	KLW, JK.	S.W.	70	12	7	*3	
44.		"	5 $\frac{1}{8}$	18 $\frac{3}{8}$	"	" "	37	"	8	7	5	
45.		"	5	18 $\frac{1}{4}$	"	" "	"	"	4	7	8	
46.		"	5 $\frac{1}{8}$	18 $\frac{1}{8}$	"	" "	"	"	2	5	9	
47.		"	5	17 $\frac{3}{8}$	"	" "	"	"	12	6	6	
48.		"	5 $\frac{1}{8}$	17 $\frac{1}{2}$	"	" "	"	"	2	6	4	
49.	Bathurst Range.	78	13 $\frac{3}{8}$	27	31.3.65	AKH, KW, JK.	S.W.	28	16	6	*3	
50.		"	13 $\frac{3}{8}$	27 $\frac{1}{4}$	"	" "	40	"	10	8	*3	
51.		"	13 $\frac{3}{8}$	27 $\frac{3}{8}$	"	" "	"	"	8	5	3	
52.		"	13 $\frac{7}{8}$	27 $\frac{1}{4}$	"	" "	"	"	52	*5	5	
53.		"	14 $\frac{1}{8}$	27 $\frac{1}{4}$	"	" "	"	"	6	8	*3	
54.	Between Mt. Melaleuca and King's Knob.	"	8 $\frac{3}{8}$	18 $\frac{7}{8}$	2.4.65	AKH, KW, JK.	S.W.	25	6	6	*3	
55.		"	8 $\frac{3}{8}$	18 $\frac{3}{8}$	"	" "	40	"	8	8	*3	
56.		"	8 $\frac{1}{2}$	18 $\frac{3}{8}$	"	" "	"	"	56	7	4	
57.		"	8 $\frac{1}{4}$	18 $\frac{3}{8}$	"	" "	"	"	4	7	*3	
58.		"	8 $\frac{3}{4}$	18	"	" "	"	"	16	13	*3	
59.		"	8 $\frac{1}{4}$	17 $\frac{3}{4}$	"	" "	"	"	8	7	*3	
60.		"	9 $\frac{1}{4}$	18 $\frac{3}{8}$	"	" "	"	"	12	5	*3	
61.		"	9 $\frac{7}{8}$	18 $\frac{7}{8}$	"	" "	"	"	10	7	3	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.62.	Between Mt. Melaleuca and Kings Knob.	78	10	19	2.4.65	AKH, KLW, JK.	S.W. 40	25	14	8	*3	
63.		"	9 $\frac{7}{8}$	19 $\frac{1}{2}$	"	"	"	"	30	6	*3	
64.		"	9 $\frac{3}{4}$	20	"	"	"	"	54	10	7	
65.		"	10 $\frac{1}{4}$	20	"	"	"	"	6	7	*3	
66.		"	10 $\frac{1}{2}$	21	"	"	"	"	6	10	*3	
67.		"	11 $\frac{1}{2}$	21 $\frac{1}{2}$	"	"	"	"	2	6	*3	
68.		"	12 $\frac{1}{4}$	21 $\frac{1}{2}$	"	"	"	"	26	12	4	6
69.		Between Melaleuca Inlet and Moultera Inlet.	"	21 $\frac{1}{2}$	26 $\frac{1}{2}$	3.4.65	KLW, JK.	S.W. 39	41	16	5	*3
70.	"		21 $\frac{1}{2}$	27 $\frac{1}{8}$	"	"	"	"	12	5	*3	
71.	"		21 $\frac{3}{8}$	27 $\frac{7}{8}$	"	"	"	"	2	*5	*3	
72.	"		21 $\frac{1}{2}$	28	"	"	"	"	6	12	7	
73.	"		21	26 $\frac{3}{8}$	"	"	"	"	8	7	*3	
74.	"		19 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	"	6	5	*3	
75.	"		19 $\frac{1}{2}$	27 $\frac{3}{8}$	"	"	"	"	2	12	*3	
76.	"		19 $\frac{3}{8}$	27 $\frac{1}{2}$	"	"	"	"	2	7	*3	
77.	"		19 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	"	2	7	6	
78.	"		19 $\frac{1}{8}$	26 $\frac{7}{8}$	"	"	"	"	12	10	*3	
79.	S.W. of Horseshoe Inlet.	68	3	20	5.4.65	"	S.W. 38	26	2	7	5	
80.		"	2 $\frac{1}{4}$	19 $\frac{1}{2}$	"	"	"	"	12	7	*3	
81.		"	2 $\frac{3}{8}$	19 $\frac{1}{2}$	"	"	"	"	2	7	8	
82.		"	2 $\frac{1}{8}$	20 $\frac{1}{2}$	"	"	"	"	10	6	*3	
83.		"	1 $\frac{1}{8}$	19 $\frac{1}{2}$	6.4.65	"	"	"	10	6	*3	
84.		"	2	19 $\frac{3}{8}$	"	"	"	"	12	10	*3	
85.		"	- $\frac{1}{4}$	18 $\frac{1}{8}$	"	"	"	"	2	8	3	
86.	Between New Harbour and King's Knob.	78	8 $\frac{1}{2}$	22 $\frac{1}{2}$	2.4.65	LES, JM.	S.W. 40	27	2	8	*3	
87.		"	8	22 $\frac{1}{2}$	"	"	"	"	2	5	*3	
88.		"	9 $\frac{1}{8}$	23	"	"	"	"	2	6	*3	
89.		"	10	23 $\frac{1}{8}$	"	"	"	"	2	6	*3	
90.		"	10 $\frac{3}{8}$	23 $\frac{1}{2}$	"	"	"	"	12	6	*3	
91.		"	10 $\frac{7}{8}$	23 $\frac{3}{8}$	"	"	"	"	6	8	*3	
92.		"	11 $\frac{3}{8}$	23 $\frac{3}{8}$	"	"	"	"	6	5	*3	
93.		"	11 $\frac{1}{2}$	23 $\frac{1}{2}$	"	"	"	"	14	7	*3	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.94.	Between New Harbour and King's Knob.	78	12 $\frac{1}{2}$	23 $\frac{3}{8}$	2.4.65	LES, JM.	S.W.	27	16	9	*3	
95.		"	12 $\frac{3}{4}$	23 $\frac{1}{8}$	"	" "	40	"	6	10	*3	
96.		"	13	23	"	" "	"	"	2	6	*3	
97.	N.E. side of Mt. Brock.	"	15 $\frac{3}{4}$	20 $\frac{3}{8}$	3.4.65	AKH, JM.	S.W.	44	8	10	*3	
98.		"	15 $\frac{3}{4}$	20 $\frac{1}{4}$	"	" "	39	"	12	8	*3	
99.		"	15 $\frac{5}{8}$	20 $\frac{3}{8}$	"	" "	"	"	12	6	*3	
100.		"	15 $\frac{1}{2}$	20 $\frac{1}{8}$	"	" "	"	"	12	6	*3	
101.		"	15 $\frac{1}{4}$	19 $\frac{7}{8}$	"	" "	"	"	12	6	5	
102.		"	14 $\frac{3}{4}$	19 $\frac{1}{8}$	"	" "	"	"	32	6	5	
103.		"	14 $\frac{5}{8}$	19	"	" "	"	"	10	6	8	
104.	S.E. of Hannant Inlet.	"	22 $\frac{3}{8}$	6 $\frac{1}{4}$	6.4.65	LES, JM.	S.W.	28	14	6	4	
105.		"	22 $\frac{1}{8}$	7 $\frac{1}{8}$	"	" "	38	"	2	5	5	
106.		"	21 $\frac{7}{8}$	7 $\frac{1}{8}$	"	" "	"	"	14	5	5	
107.		"	21 $\frac{3}{4}$	7	"	" "	"	"	28	5	6	
108.		"	21 $\frac{5}{8}$	6 $\frac{3}{4}$	"	" "	"	"	14	5	4	
109.	East of Hannant Inlet.	"	23 $\frac{1}{2}$	6 $\frac{1}{4}$	7.4.65	" "	"	"	360	7	5	
110.		"	-24	6 $\frac{3}{4}$	"	" "	"	"	76	6	3	
111.		"	6S	1 $\frac{3}{4}$	13 $\frac{1}{2}$	"	" "	"	"	52	6	4
112.	S.W. Cape.	8S	4 $\frac{3}{8}$	2	4.4.65	WDMH.	S.W.	9	16	14	5	
113.		"	"	4 $\frac{5}{8}$	2	"	"	43	"	12	6	5
114.	Wilson Bight.	"	6 $\frac{3}{8}$	7 $\frac{7}{8}$	17.4.65	WDMH, JK.	S.W.	4	64	6	5	
115.		"	"	6 $\frac{1}{2}$	7 $\frac{3}{4}$	"	" "	42	"	2	10	4
116.	Balmoral Hill.	6S	4	26 $\frac{3}{8}$	25.4.65	WDMH, LES,	S.W.	68	17	9	4	
117.		"	"	4	26 $\frac{1}{4}$	HB.	37	"	2	10	5	
118.		"	"	5	23 $\frac{1}{2}$	" "	"	"	52	8	5	
119.		"	"	4 $\frac{3}{4}$	23 $\frac{3}{8}$	" "	"	"	52	6	5	
120.		"	"	3 $\frac{7}{8}$	23 $\frac{1}{8}$	" "	"	"	52	7	5	
121.		"	"	4	23 $\frac{7}{8}$	" "	"	"	184	5	4	
122.		"	"	4 $\frac{1}{8}$	-24	" "	"	"	2	7	4	
123.		"	"	4 $\frac{5}{8}$	24 $\frac{1}{2}$	" "	"	"	2	5	*3	
124.	"	"	4 $\frac{3}{4}$	24 $\frac{1}{8}$	" "	"	"	76	*5	*3		

Sample No.	Locality	Mosaic			Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.125.	S.W. Cape.	78	2 $\frac{1}{8}$	9 $\frac{1}{4}$	9.4.65	KLW.	S.W.	4	32	*5	3		
126.		"	2 $\frac{1}{4}$	9	"	"	42	"	2	7	*3		
127.		"	1 $\frac{5}{8}$	8 $\frac{3}{4}$	"	"	"	"	232	8	*3		
128.		"	1 $\frac{1}{2}$	9 $\frac{1}{2}$	"	"	"	"	16	5	5		
129.		East of Faults Bay.	"	17 $\frac{1}{2}$	7 $\frac{5}{8}$	12.4.65	KLW.	S.W.	48	2	5	6	
130.	"		18 $\frac{1}{8}$	7 $\frac{1}{2}$	"	"	39	"	2	5	*3		
131.	"		18 $\frac{1}{2}$	8 $\frac{1}{8}$	"	"	"	"	12	6	5		
132.	"		18 $\frac{3}{4}$	8 $\frac{1}{4}$	"	"	"	"	32	5	4		
133.	"		19	7 $\frac{7}{8}$	"	"	"	"	6	5	6		
134.	"		19 $\frac{1}{8}$	8	"	"	"	"	12	*5	4		
135.	"		19 $\frac{7}{8}$	7 $\frac{3}{4}$	"	"	"	"	2	*5	*3		
136.	Wilson Bight	88	6 $\frac{1}{4}$	6 $\frac{3}{8}$	17.4.65	WDMH, JK.	S.W.	4	16	6	3		
137.		"	88	6 $\frac{1}{2}$	6 $\frac{7}{8}$	"	" "	42	"	2	-	6	
138.		"	"	6 $\frac{1}{2}$	7 $\frac{1}{4}$	"	" "	"	"	2	10	37	
139.		"	"	6 $\frac{3}{8}$	7 $\frac{3}{8}$	"	" "	"	"	2	10	3	
140.		"	"	6 $\frac{5}{8}$	7 $\frac{1}{2}$	"	" "	"	"	2	6	3	
141.		"	"	6 $\frac{3}{8}$	8	18.4.65	" "	"	1	2	6	8	
142.	Amy Range	"	6 $\frac{7}{8}$	8	"	" "	"	"	24	*5	6		
143.		"	"	7 $\frac{1}{8}$	8	"	" "	"	"	12	7	*3	
144.	Ketchem Bay	78	$\frac{1}{2}$	17	"	" "	"	"	14	7	*3		
145.		"	"	$\frac{1}{8}$	16 $\frac{7}{8}$	19.4.65	" "	"	"	2	6	*3	
146.		"	88	7 $\frac{7}{8}$	10 $\frac{3}{8}$	"	" "	"	"	2	*5	6	
147.	"	88	7 $\frac{3}{4}$	10 $\frac{1}{4}$	"	" "	"	"	168	14	3		
148.	Between Ketchem Bay and New Harbour Point	78	1 $\frac{3}{8}$	18 $\frac{1}{4}$	20.4.65	" "	S.W.	16	14	*7	5		
149.		"	"	1 $\frac{1}{2}$	18 $\frac{3}{4}$	"	" "	42	"	6	*5	*3	
150.		"	"	1 $\frac{3}{4}$	19 $\frac{3}{8}$	"	" "	"	"	2	5	*3	
151.		"	"	2	20 $\frac{1}{2}$	"	" "	"	"	4	6	4	
152.	New Harbour.	"	3 $\frac{1}{4}$	21 $\frac{1}{8}$	"	" "	"	"	6	6	3		
153.	Smoke Signal Hill (New Harbour).	"	4	23 $\frac{1}{4}$	21.4.65.	" "	S.W.	15	6	5	4		
							41						

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.154.	South of Horseshoe Inlet.	78	24 $\frac{3}{8}$	12	6.4.65.	JK, KLW.	S.W.	26	16	*5	*3	
155.		"	24 $\frac{1}{4}$	11 $\frac{1}{8}$	"	" "	38	"	16	*5	*3	
156.		"	24 $\frac{1}{4}$	12 $\frac{1}{8}$	"	" "	"	"	2	5	6	
157.		"	24 $\frac{3}{8}$	13 $\frac{3}{4}$	"	" "	"	"	8	9	*3	
158.		"	6S	$\frac{3}{8}$	21 $\frac{1}{4}$	"	" "	"	"	12	5	*3
159.	"	"	- $\frac{1}{8}$	22	"	" "	"	"	12	5	4	
160.	Horseshoe Creek.	78	23 $\frac{7}{8}$	15 $\frac{1}{4}$	"	" "	"	"	8	5	*3	
161.	Sth. of Horseshoe Inlet.	"	22 $\frac{1}{2}$	16	7.4.65.	" "	"	"	8	5	*3	
162.	Smoke Signal Hill. (New Harbour).	"	3 $\frac{1}{4}$	23 $\frac{1}{8}$	21.4.65.	WDMH, JK.	S.W.	15	312	*5	7	
163.		"	4 $\frac{7}{8}$	23 $\frac{1}{2}$	"	" "	41	"	272	*5	12	
164.	West of Melaleuca Inlet.	"	21 $\frac{1}{8}$	22 $\frac{1}{8}$	25.4.65.	KLW, JK.	S.W.	24	100	*5	4	
165.		"	21 $\frac{1}{8}$	21 $\frac{3}{8}$	"	JLW, FJS	38	"	50	5	3	
166.		"	21	21 $\frac{3}{8}$	"	" "	"	"	16	*5	*5	
167.		"	20 $\frac{3}{8}$	21	"	" "	"	"	50	*5	*3	
168.		"	20 $\frac{1}{2}$	20 $\frac{7}{8}$	"	" "	"	"	16	32	4	
169.		"	20 $\frac{1}{4}$	20 $\frac{3}{4}$	"	" "	"	"	2	*5	3	
170.		"	20	21 $\frac{1}{8}$	"	" "	"	"	2	7	3	
171.	South of Horseshoe Inlet.	"	22 $\frac{1}{2}$	16 $\frac{1}{8}$	7.4.65.	KLW, JK.	S.W.	26	100	5	4	
172.		"	22	16 $\frac{1}{2}$	"	" "	38	"	2	*5	*3	
173.		"	21 $\frac{3}{4}$	16 $\frac{1}{2}$	"	" "	"	"	18	*5	*3	
174.		"	21 $\frac{3}{8}$	16 $\frac{1}{2}$	"	" "	"	"	8	7	*3	
175.		"	20 $\frac{7}{8}$	16 $\frac{5}{8}$	"	" "	"	"	2	*5	4	
176.		"	20 $\frac{3}{4}$	16 $\frac{1}{2}$	"	" "	"	"	8	*5	7	
177.	Horseshoe Creek.	"	22 $\frac{1}{4}$	14 $\frac{3}{8}$	9.4.65.	" "	"	"	200	5	7	
178.		"	22	13 $\frac{5}{8}$	"	JK.	"	"	50	5	*3	
179.		"	22 $\frac{1}{4}$	14 $\frac{3}{8}$	"	"	"	"	2	6	*3	
180.		"	22	14 $\frac{5}{8}$	"	"	"	"	44	5	5	
181.	South of Horseshoe Inlet. (Umbra Creek)	"	21 $\frac{3}{8}$	15	"	"	"	"	8	*5	*5	
182.		"	21 $\frac{1}{4}$	14 $\frac{7}{8}$	"	"	"	"	32	*5	3	
183.		"	20 $\frac{1}{2}$	15	"	"	"	"	Sample Lost			
184.		"	22 $\frac{7}{8}$	16 $\frac{3}{8}$	"	"	"	"	32	*5	*3	
185.		"	23 $\frac{1}{2}$	16 $\frac{1}{2}$	"	"	"	"	66	*5	*3	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.186.	Melaleuca Inlet.	7S	23 $\frac{3}{8}$	20 $\frac{1}{4}$	9.4.65	JK.	S.W. 38	24	8	6	*3		
187.	Faults Bay.	"	16 $\frac{1}{4}$	5 $\frac{1}{4}$	12.4.65	"	S.W.	49	8	5	10		
188.		"	16 $\frac{1}{2}$	5 $\frac{3}{8}$	"	"	39	"	2	*5	4		
189.		"	17	5 $\frac{1}{2}$	"	"	"	"	52	*5	*3		
190.		"	17 $\frac{1}{2}$	5 $\frac{1}{4}$	"	"	"	"	2	7	7		
191.	West of Melaleuca Inlet.	"	21 $\frac{3}{8}$	21 $\frac{3}{8}$	25.4.65	KLW, JK.	S.W.	25	2	10	55		
192.		"	21 $\frac{1}{2}$	21 $\frac{3}{8}$	"	" "	38	"	4	5	20		
193.		"	21 $\frac{1}{2}$	21 $\frac{1}{2}$	"	" "	"	"	14	5	14		
194.		"	20 $\frac{1}{2}$	20 $\frac{3}{4}$	"	" "	"	"	12	5	10		
195.		"	20 $\frac{3}{8}$	20 $\frac{3}{4}$	"	" "	"	"	Sample Lost				
196.		"	19 $\frac{7}{8}$	20 $\frac{1}{2}$	"	" "	"	"	-	*5	6		
197.		"	19 $\frac{1}{2}$	19 $\frac{1}{4}$	"	JLW	"	"	2	5	*3		
198.		"	19 $\frac{3}{4}$	19 $\frac{1}{4}$	"	FJS, KLW	"	"	2	5	14		
199.		"	19 $\frac{7}{8}$	19 $\frac{3}{8}$	"	" "	"	"	2	5	3		
200.		"	22 $\frac{1}{8}$	20 $\frac{1}{8}$	"	" "	"	"	2	5	6		
201.	Stephen's Bay.	6S	1 $\frac{1}{2}$	7 $\frac{1}{4}$	6.4.65.	WDMH, AKH.	S.W.	30	2	5	9		
202.		"	1 $\frac{3}{4}$	7 $\frac{1}{4}$	"	" "	38	"	2	*5	5		
203.		"	2 $\frac{3}{8}$	6 $\frac{7}{8}$	"	" "	"	"	2	*5	5		
204.		"	2 $\frac{3}{8}$	6 $\frac{1}{4}$	"	" "	"	"	2	*5	8		
205.	Hannant Creek.	7S	22 $\frac{1}{4}$	8 $\frac{1}{8}$	"	" "	"	28	26	*5	6		
206.		"	23 $\frac{1}{4}$	9 $\frac{3}{8}$	7.4.65	" "	"	"	26	7	*3		
207.		"	24 $\frac{1}{2}$	9 $\frac{1}{2}$	"	" "	"	"	78	56	*3		
208.		"	6S	- $\frac{1}{2}$	16 $\frac{1}{4}$	"	" "	"	"	28	5	8	
209.		"	"	- $\frac{1}{2}$	16 $\frac{3}{8}$	"	" "	"	"	6	*5	*3	
210.		"	7S	22 $\frac{1}{4}$	18 $\frac{3}{8}$	"	" "	"	24	6	*5	*3	
211.		"	6S	$\frac{1}{8}$	16 $\frac{1}{8}$	"	" "	"	28	192	*5	*3	
212.		"	"	$\frac{3}{4}$	16 $\frac{1}{8}$	"	" "	"	"	28	*5	*3	
213.		"	"	1	16 $\frac{1}{4}$	"	" "	"	"	2	*5	*3	
214.		"	"	1 $\frac{1}{4}$	16 $\frac{1}{8}$	"	" "	"	"	2	*5	*3	
215.		"	"	2	16 $\frac{1}{8}$	"	" "	"	"	2	*5	*3	
216.		"	"	2 $\frac{1}{4}$	15 $\frac{7}{8}$	"	" "	"	"	2	*5	5	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.217.	Hannant Creek	68	3½	14½	7.4.65	WDMH, AKH.	S.W. 38	28	2	*5	*3		
218.		"	3½	16½	"	" "	S.W.	71	24	*5	*3		
219.		"	3½	13	12.4.65	AKH.	37	"	6	*5	5		
220.		"	4½	13	"	"	"	"	2	5	*3		
221.		"	3½	12½	"	"	"	"	18	5	*3		
222.		"	3½	12½	"	"	"	"	6	7	*3		
223.		"	3½	13	"	"	"	"	6	*5	*3		
224.	S.W. Cape Range.	78	11	7½	22.4.65	LRS, WDMH, AKH.	S.W. 40	22	2	-	3		
225.		"	8½	9½	"	" "	S.W. 41	18	16	-	-		
226.	West of Melaleuca Inlet.	"	22½	21½	25.4.65	JLW, JK.	S.W.	25	6	*5	*3		
227.		"	22½	20½	"	" "	38	"	6	*5	*3		
228.		"	20	20½	"	JLW, FJS.	S.W. 38	24	34	*5	*3		
229.		"	19½	18½	"	JLW, JK.	S.W.	25	40	*5	*3		
230.		"	20½	19	"	" "	38	"	2	*5	*3		
231.		"	21½	19½	"	" "	"	"	2	*5	*3		
232.		"	21½	20½	"	" "	"	"	22	10	*3		
233.	Loaparte Cove	68	¼	32½	26.4.65	JLW, HG.	S.W.	23	2	10	6		
234.		"	¼	33½	"	" "	38	"	2	-	3		
235.		"	1	33½	"	" "	"	"	22	6	3		
236.		"	1½	33½	"	" "	"	"	2	12	8		
237.		"	1	34	"	" "	"	"	2	6	8		
238.		"	½	34½	"	" "	"	"	2	6	6		
239.		"	½	34½	"	" "	"	"	2	6	5		
240.		"	½	34	"	" "	"	"	14	-	6		
241.		"	78	24½	27½	"	" "	"	"	2	12	6	
242.		Loaparte Cove.	"	23½	27	"	HG, FJS.	"	"	10	12	4	
243.	"		23½	26½	"	" "	"	"	2	6	3		
244.	"		23	25	"	" "	"	"	2	12	4		
245.	"		22½	24½	"	" "	"	"	2	-	6		

Sample No.	Locality	Nossie			Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.246.	Eastern Sides of Mt. Beattie.	63	3 $\frac{1}{2}$	28 $\frac{1}{2}$	30.4.65.	KLW.	S.W.	67	2	6	10		
247.		"	3 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	27	"	2	6	9	
248.		"	3	27 $\frac{1}{2}$	"	"	"	"	"	2	6	33	
249.		"	3 $\frac{1}{2}$	28 $\frac{1}{2}$	"	JK.	"	"	"	2	10	3	
250.		"	2 $\frac{1}{2}$	28 $\frac{1}{2}$	"	"	"	"	"	24	-	4	
251.		"	2 $\frac{1}{2}$	28	"	"	"	"	"	2	-	6	
252.	Leaparte Cove.	78	24 $\frac{1}{2}$	26 $\frac{1}{2}$	26.4.65.	FJS, KLW.	S.W.	23	2	6	5		
253.		"	24 $\frac{1}{2}$	27 $\frac{1}{2}$	"	" "	"	38	"	14	-	5	
254.		"	24 $\frac{1}{2}$	27 $\frac{1}{2}$	"	" "	"	"	"	2	-	6	
255.		"	24 $\frac{1}{2}$	27	"	" "	"	"	"	2	-	3	
256.		"	24 $\frac{1}{2}$	27 $\frac{1}{2}$	"	" "	"	"	"	4	6	-	
257.		"	24 $\frac{1}{2}$	27 $\frac{1}{2}$	"	" "	"	"	"	2	-	4	
258.		"	24 $\frac{1}{2}$	27 $\frac{1}{2}$	"	" "	"	"	"	16	6	4	
259.		"	23 $\frac{1}{2}$	27 $\frac{1}{2}$	"	HG, FJS.	"	"	"	4	6	5	
260.		Eastern Side of Mt. Beattie.	68	1 $\frac{1}{2}$	28	30.4.65	AKH.	S.W.	68	2	6	3	
261.	"		1 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	37	"	2	6	3	
262.	"		1 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	"	"	2	-	3	
263.	"		1 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	"	"	"	4	-	3	
264.	"		1 $\frac{1}{2}$	26 $\frac{1}{2}$	"	"	"	"	"	4	6	5	
265.	"		1 $\frac{1}{2}$	26 $\frac{1}{2}$	"	"	"	"	"	14	10	6	
266.	"		1 $\frac{1}{2}$	26 $\frac{1}{2}$	"	"	"	"	"	16	-	3	
267.	"		1 $\frac{1}{2}$	28 $\frac{1}{2}$	"	"	"	"	"	2	-	3	
268.	West of Leaparte Cove.		78	24 $\frac{1}{2}$	22 $\frac{1}{2}$	"	JK, AKH.	"	"	6	6	7	
269.		"	24 $\frac{1}{2}$	22 $\frac{1}{2}$	"	" "	"	"	4	6	3		
270.		"	24 $\frac{1}{2}$	22	"	" "	"	"	6	-	3		
271.		"	24 $\frac{1}{2}$	22 $\frac{1}{2}$	"	" "	"	"	2	6	-		
272.	Wilson's Bight.	89	7 $\frac{1}{2}$	7 $\frac{1}{2}$	1.5.65	JK.	S.W.	3	4	-	5		
273.		"	7 $\frac{1}{2}$	7 $\frac{1}{2}$	"	"	"	42	"	2	6	6	
274.		"	7 $\frac{1}{2}$	7 $\frac{1}{2}$	"	"	"	"	"	2	6	3	
275.		"	7 $\frac{1}{2}$	7 $\frac{1}{2}$	"	"	"	"	"	2	-	3	

053

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.276.	Loaparte Cove.	78	23 $\frac{1}{2}$	27 $\frac{7}{8}$	26.4.65	JLW, KLW	S.W.	23	2	10	-		
277.		"	23 $\frac{1}{2}$	28	"	" "	38	"	14	6	3		
278.		"	23 $\frac{3}{8}$	28 $\frac{1}{2}$	"	" "	"	"	6	14	6		
279.		"	22 $\frac{7}{8}$	27 $\frac{3}{4}$	"	" "	"	"	144	6	3		
280.		"	22 $\frac{3}{8}$	27 $\frac{1}{2}$	"	" "	"	"	4	6	3		
281.		"	22	27 $\frac{1}{8}$	"	" "	"	"	2	6	-		
282.		"	21 $\frac{7}{8}$	25 $\frac{3}{8}$	"	" "	"	"	2	6	-		
283.		"	22 $\frac{1}{4}$	25 $\frac{1}{2}$	"	" "	"	"	2	-	-		
284.	East side of Mt. Beattie.	68	2 $\frac{3}{8}$	27 $\frac{1}{2}$	30.4.65	KLW.	S.W.	67	2	-	3		
285.		"	2 $\frac{1}{2}$	27 $\frac{1}{2}$	"	"	37	"	2	-	7		
286.		"	2 $\frac{3}{8}$	27 $\frac{3}{8}$	"	"	"	"	2	10	-		
287.	West of Melaleuca Inlet.	"	- $\frac{1}{8}$	27 $\frac{1}{2}$	"	"	S.W.	24	2	6	3		
288.		"	- $\frac{3}{8}$	27 $\frac{1}{2}$	"	"	38	"	2	6	4		
289.		"	- $\frac{3}{8}$	27 $\frac{5}{8}$	"	"	"	"	2	6	-		
290.		"	- $\frac{1}{8}$	27 $\frac{1}{2}$	"	"	"	"	2	10	3		
291.		"	78	24 $\frac{3}{8}$	20 $\frac{3}{4}$	"	"	"	"	6	6	3	
292.		"	"	24 $\frac{3}{8}$	20 $\frac{7}{8}$	"	"	"	"	4	10	-	
293.		"	"	23 $\frac{3}{4}$	21 $\frac{1}{8}$	"	"	"	"	4	6	-	
294.	Wilson Bight	88	7 $\frac{1}{2}$	7 $\frac{1}{2}$	1.5.65	JK.	S.W.	3	2	6	-		
295.		"	"	7 $\frac{1}{2}$	7 $\frac{3}{8}$	"	"	42	"	2	12	-	
296.		"	"	7 $\frac{1}{2}$	7 $\frac{3}{8}$	"	"	"	"	2	10	3	
297.		"	"	7 $\frac{1}{2}$	7 $\frac{3}{4}$	"	"	"	"	2	12	9	
298.		"	"	7 $\frac{3}{8}$	7 $\frac{3}{8}$	"	"	"	"	2	10	-	
299.		"	78	$\frac{1}{8}$	13 $\frac{3}{8}$	"	"	"	"	2	10	-	
300.		"	"	$\frac{1}{8}$	13 $\frac{1}{2}$	"	"	"	"	2	10	3	
301.		"	88	7 $\frac{1}{2}$	6 $\frac{7}{8}$	"	"	"	"	2	12	8	
302.		"	"	7 $\frac{1}{2}$	7 $\frac{1}{2}$	"	"	"	"	4	10	-	
303.		"	"	7	7 $\frac{3}{8}$	"	"	"	"	2	12	3	
304.		"	"	7 $\frac{1}{8}$	7 $\frac{1}{2}$	"	"	"	"	2	12	3	
305.		"	"	6 $\frac{1}{8}$	8 $\frac{1}{8}$	"	"	"	"	4	-	3	

054

Sample No.	Locality	Mosaic			Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A. 306.	Balmoral Hill.	68	4 $\frac{7}{8}$	22 $\frac{1}{2}$	2.5.65.	JK.	S.W.	69	2	6	5		
307.	East of Horseshoe Inlet.	"	5	22 $\frac{1}{2}$	"	"	37	"	2	6	3		
308.		"	5 $\frac{1}{8}$	22 $\frac{1}{8}$	"	"	"	"	2	6	-		
309.		"	5 $\frac{1}{8}$	22 $\frac{1}{8}$	"	"	"	"	2	6	-		
310.		"	5 $\frac{1}{4}$	22	"	"	"	"	2	6	4		
311.		"	5 $\frac{1}{4}$	21 $\frac{7}{8}$	"	"	"	"	2	-	3		
312.		"	5 $\frac{1}{2}$	21 $\frac{3}{8}$	"	"	"	"	2	10	6		
313.		"	5 $\frac{1}{2}$	21 $\frac{1}{8}$	"	"	"	"	2	-	3		
314.		"	4 $\frac{3}{4}$	21 $\frac{1}{2}$	"	"	"	"	2	12	10		
315.		"	4 $\frac{3}{8}$	21 $\frac{1}{2}$	"	"	"	"	2	-	6		
316.		"	4 $\frac{1}{2}$	21 $\frac{3}{4}$	"	"	"	"	4	6	8		
317.		"	4 $\frac{1}{2}$	22 $\frac{1}{8}$	"	"	"	"	2	10	12		
318.		"	4 $\frac{1}{8}$	22 $\frac{1}{2}$	"	"	"	"	2	-	6		
319.		"	4 $\frac{1}{8}$	22 $\frac{3}{8}$	"	"	"	"	2	6	3		
320.		"	4	22 $\frac{1}{2}$	"	"	"	"	4	6	9		
321.	N./E. of New Harbour.	78	5	23 $\frac{1}{2}$	1.5.65.	KLW.	S.W.	14	2	-	9		
322.		"	4 $\frac{1}{2}$	24 $\frac{1}{8}$	"	"	41	"	4	6	3		
323.		"	4	24 $\frac{1}{2}$	"	"	"	"	4	12	3		
324.		"	5	24 $\frac{1}{8}$	"	"	"	"	8	10	5		
325.		"	5 $\frac{1}{2}$	24 $\frac{1}{8}$	"	"	"	"	2	-	6		
326.		"	5 $\frac{3}{8}$	24 $\frac{1}{2}$	"	"	"	"	14	-	6		
327.		"	5 $\frac{5}{8}$	24 $\frac{3}{4}$	"	"	"	"	8	-	6		
328.		"	5 $\frac{7}{8}$	24 $\frac{7}{8}$	"	"	"	"	32	-	3		
329.		"	6 $\frac{1}{8}$	24 $\frac{7}{8}$	"	"	"	"	2	6	6		
330.		"	6 $\frac{3}{4}$	24 $\frac{3}{4}$	"	"	"	"	4	10	8		
331.	South West Cape.	78	- $\frac{3}{8}$	8 $\frac{7}{8}$	2.5.65.	"	S.W.	5	2	6	3		
332.		"	0	9	"	"	42	"	2	-	5		
333.		"	88	6 $\frac{3}{8}$	2 $\frac{3}{8}$	"	"	"	"	8	-	6	
334.		"	"	5 $\frac{7}{8}$	3 $\frac{1}{4}$	"	"	"	"	8	-	-	
335.		"	"	6 $\frac{1}{8}$	3 $\frac{1}{4}$	"	"	"	"	8	-	-	
336.		"	"	6 $\frac{1}{2}$	3 $\frac{1}{8}$	"	"	"	"	2	-	-	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sr	Cu	Zn	Mo	
A. 337.	Morning Hill Area.	68	7 $\frac{1}{8}$	12 $\frac{1}{2}$	9.5.65.	AKH, JK.	S.W.	73	2	-	3		
338.		"	7 $\frac{1}{8}$	12 $\frac{1}{4}$	"	" "	"	37	8	-	-		
339.		"	7 $\frac{1}{8}$	12 $\frac{1}{8}$	"	" "	"	"	2	6	-		
340.		"	7 $\frac{1}{8}$	11 $\frac{7}{8}$	"	" "	"	"	2	6	-		
341.		"	8	12	"	" "	"	"	8	6	3		
342.		"	8 $\frac{1}{8}$	11 $\frac{7}{8}$	"	" "	"	"	6	10	4		
343.		"	9	11 $\frac{3}{8}$	"	" "	"	"	4	10	5		
344.		"	8 $\frac{1}{8}$	11 $\frac{3}{8}$	"	" "	"	"	4	6	3		
345.		"	8	11 $\frac{1}{2}$	10.5.65.	" "	"	"	8	12	3		
346.		"	5 $\frac{1}{8}$	11 $\frac{7}{8}$	"	" "	"	"	12	14	4		
347.		"	5 $\frac{1}{8}$	11 $\frac{1}{4}$	"	" "	"	"	8	12	5		
348.		"	6 $\frac{1}{8}$	11 $\frac{1}{4}$	"	" "	"	"	6	14	3		
349.		"	6 $\frac{1}{8}$	10 $\frac{1}{4}$	"	" "	"	"	2	10	5		
350.		Telopea Point.	88	3 $\frac{7}{8}$	10 $\frac{1}{8}$	1.5.65.	WDMH.	S.W.	3	2	12	5	
351.			"	3 $\frac{7}{8}$	10 $\frac{1}{8}$	"	"	"	42	2	12	5	
352.	East of Horseshoe Inlet.	68	3 $\frac{1}{4}$	22 $\frac{1}{4}$	2.5.65.	JK.	S.W.	69	2	6	9		
353.		"	3 $\frac{1}{4}$	23	"	"	"	37	2	-	8		
354.		"	3 $\frac{1}{8}$	23 $\frac{1}{8}$	"	"	"	"	2	6	8		
355.		"	3 $\frac{1}{2}$	23 $\frac{1}{8}$	"	"	"	"	2	6	8		
356.		"	3 $\frac{1}{4}$	23 $\frac{1}{4}$	"	"	"	"	8	12	9		
357.		"	3 $\frac{1}{8}$	23 $\frac{3}{8}$	"	"	"	"	6	6	5		
358.		"	2 $\frac{1}{4}$	23 $\frac{1}{4}$	"	"	"	"	6	-	8		
359.		"	2 $\frac{1}{8}$	23 $\frac{7}{8}$	"	"	"	"	2	12	12		
360.		"	2 $\frac{1}{8}$	24 $\frac{1}{8}$	"	"	"	"	2	6	5		
361.		"	2 $\frac{1}{2}$	24 $\frac{1}{4}$	"	"	"	"	2	-	6		
362.		"	2 $\frac{1}{8}$	24 $\frac{1}{4}$	"	"	"	"	2	-	3		
363.		"	1 $\frac{7}{8}$	24 $\frac{7}{8}$	"	"	"	"	6	-	6		
364.		"	1 $\frac{1}{8}$	25	"	"	"	"	36	-	6		
365.		"	1 $\frac{1}{8}$	25 $\frac{1}{8}$	"	"	"	"	6	-	5		
366.	Morning Hill Area.	"	6 $\frac{1}{2}$	10 $\frac{3}{8}$	10.5.65.	AKH, JK.	S.W.	73	2	6	3		
367.		"	6 $\frac{1}{4}$	9 $\frac{1}{8}$	"	" "	"	37	30	6	5		

055

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Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N"	"E"	Date	By	Run	No.	Sn	Cu	Zn	Mo
A. 368.	New Harbour Range.	78	6 $\frac{7}{8}$	24 $\frac{5}{8}$	17.5.65.	KLW.	S.W.	14	6	6	4	
369.		"	7	24 $\frac{1}{4}$	"	"	41	"	2	6	6	
370.		"	7 $\frac{1}{4}$	24 $\frac{7}{8}$	"	"	"	"	4	10	8	
371.		"	7 $\frac{1}{2}$	25	"	"	"	"	4	6	12	
372.		"	7 $\frac{3}{8}$	25 $\frac{6}{8}$	"	"	"	"	2	6	6	
373.		"	7 $\frac{1}{2}$	25 $\frac{5}{8}$	"	"	"	"	2	6	3	
374.		"	8	25 $\frac{3}{8}$	"	"	"	"	6	10	8	
375.		"	8 $\frac{1}{8}$	25 $\frac{3}{8}$	"	"	"	S.W.	27	2	6	8
376.		"	8 $\frac{1}{4}$	25 $\frac{1}{2}$	"	"	"	40	"	2	6	3
377.		"	8 $\frac{3}{8}$	25 $\frac{3}{8}$	"	"	"	"	"	4	6	4
378.		"	8 $\frac{5}{8}$	25 $\frac{7}{8}$	"	"	"	"	"	2	6	3
379.		"	8 $\frac{3}{4}$	25 $\frac{7}{8}$	"	"	"	"	"	4	6	9
380.		"	8 $\frac{7}{8}$	25 $\frac{3}{4}$	"	"	"	"	"	4	10	9
381.		"	8 $\frac{7}{8}$	25 $\frac{1}{2}$	"	"	"	"	"	6	6	5
382.		"	9	25 $\frac{1}{2}$	"	"	"	"	"	2	10	8
383.		"	9 $\frac{1}{8}$	25 $\frac{5}{8}$	"	"	"	"	"	2	6	3
384.		"	9 $\frac{1}{4}$	25 $\frac{5}{8}$	"	"	"	"	"	4	-	3
385.		"	9 $\frac{3}{8}$	25 $\frac{7}{8}$	"	"	"	"	"	4	-	6
386.		"	9 $\frac{1}{2}$	26	"	"	"	"	"	2	6	5
387.		"	9 $\frac{1}{2}$	26 $\frac{1}{4}$	"	"	"	"	"	4	6	4
388.		"	9 $\frac{1}{4}$	26 $\frac{3}{8}$	"	"	"	"	"	2	14	3
389.		"	9 $\frac{1}{4}$	26 $\frac{1}{2}$	"	"	"	"	"	2	20	6
390.		"	9 $\frac{1}{4}$	26 $\frac{3}{8}$	"	"	"	"	"	2	12	14
391.		"	9 $\frac{3}{4}$	26 $\frac{1}{4}$	"	"	"	"	"	2	38	13
392.		"	9 $\frac{3}{8}$	26 $\frac{3}{8}$	"	"	"	"	"	2	10	9
393.		"	9 $\frac{5}{8}$	27	"	"	"	"	"	2	12	6
394.		"	9 $\frac{1}{4}$	27	"	"	"	"	"	4	12	6
395.		"	9 $\frac{3}{8}$	27 $\frac{1}{8}$	"	"	"	"	"	2	35	12
396.		"	9	27 $\frac{1}{4}$	"	"	"	"	"	2	6	4
397.		"	8 $\frac{3}{4}$	27	"	"	"	"	"	2	12	6
398.		"	8 $\frac{1}{2}$	27 $\frac{1}{8}$	"	"	"	"	"	2	5	5
399.		"	8 $\frac{1}{4}$	27 $\frac{3}{8}$	"	"	"	"	"	2	5	4
400.		"	8 $\frac{3}{8}$	27 $\frac{3}{8}$	"	"	"	"	"	4	-	5

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.401.	Mount Nares Area.	68	6 $\frac{1}{8}$	13	9.5.65.	KLW, FJS.	S.W.	71	6	-	4		
402.		"	6 $\frac{1}{2}$	13 $\frac{1}{8}$	"	" "	"	37	"	2	-	4	
403.		"	6 $\frac{3}{8}$	13 $\frac{3}{8}$	"	" "	"	"	"	2	-	4	
404.		"	6 $\frac{1}{2}$	13 $\frac{3}{8}$	"	" "	"	"	"	6	-	4	
405.		"	6 $\frac{1}{2}$	14 $\frac{1}{8}$	"	" "	"	"	"	2	-	4	
406.		"	6 $\frac{1}{2}$	14 $\frac{1}{8}$	"	" "	"	"	"	2	-	5	
407.		"	6 $\frac{1}{2}$	14 $\frac{1}{2}$	"	" "	"	"	"	8	-	4	
408.		"	6 $\frac{3}{8}$	14 $\frac{7}{8}$	"	" "	"	"	"	2	5	4	
409.		"	6 $\frac{1}{2}$	15	"	" "	"	"	"	6	-	4	
410.		"	6 $\frac{1}{2}$	15 $\frac{1}{2}$	"	" "	"	"	"	2	-	4	
411.		"	5 $\frac{1}{2}$	15	"	" "	"	"	"	12	5	5	
412.		"	5 $\frac{7}{8}$	15 $\frac{1}{8}$	"	" "	"	"	"	10	6	6	
413.	South of Mount Nares and east of Hannant Inlet.	"	5 $\frac{1}{2}$	12 $\frac{1}{2}$	10.5.65.	" "	S.W.	72	12	5	4		
414.		"	5 $\frac{1}{2}$	12	"	" "	"	37	"	2	-	6	
415.		"	5 $\frac{1}{2}$	11 $\frac{7}{8}$	"	" "	"	"	"	2	-	4	
416.		"	4 $\frac{7}{8}$	11 $\frac{1}{2}$	"	" "	"	"	"	2	6	12	
417.		"	4 $\frac{3}{8}$	12	"	" "	"	"	"	2	5	4	
418.		"	3 $\frac{3}{4}$	12 $\frac{1}{2}$	"	" "	"	"	"	2	-	4	
419.		"	4 $\frac{1}{8}$	13	"	" "	"	"	"	4	5	7	
420.		"	4 $\frac{1}{2}$	12 $\frac{7}{8}$	"	" "	"	"	"	6	5	4	
421.		East of Hannant Inlet.	"	3	12 $\frac{7}{8}$	11.5.65.	" "	"	"	2	5	4	
422.	"		2 $\frac{7}{8}$	12 $\frac{1}{2}$	"	" "	"	"	"	4	5	4	
423.	"		2 $\frac{1}{2}$	12 $\frac{5}{8}$	"	" "	"	"	"	12	-	4	
424.	"		2 $\frac{3}{8}$	12 $\frac{3}{8}$	"	" "	"	"	"	2	5	4	
425.	"		1 $\frac{7}{8}$	12 $\frac{3}{4}$	"	" "	"	S.W.	28	2	5	6	
426.	"		1 $\frac{3}{4}$	12 $\frac{7}{8}$	"	" "	"	38	"	4	-	5	
427.	"		1 $\frac{1}{2}$	11 $\frac{7}{8}$	"	" "	"	"	"	2	5	4	
428.	"		1 $\frac{1}{2}$	12	"	" "	"	"	"	6	5	4	
429.	"		1 $\frac{1}{8}$	12	"	" "	"	"	"	6	-	5	
430.	"		$\frac{3}{4}$	12 $\frac{1}{4}$	"	" "	"	"	"	4	5	5	
431.	"		1/16	12 $\frac{1}{4}$	"	" "	"	"	"	6	5	4	
432.	"		78	24 $\frac{3}{8}$	5 $\frac{1}{2}$	"	" "	"	"	4	-	4	

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.433.	East of Hannant Inlet.	78	24 $\frac{1}{8}$	5 $\frac{3}{8}$	11.5.65.	KLW, FJS.	S.W.	28	6	5	4	
434.		"	23 $\frac{7}{8}$	5 $\frac{3}{8}$	"	" "	38	"	2	-	4	
435.		"	23 $\frac{1}{8}$	5 $\frac{1}{4}$	"	" "	"	"	4	5	5	
436.		"	23 $\frac{1}{4}$	5 $\frac{1}{4}$	"	" "	"	"	2	5	20	
437.		"	23	5 $\frac{1}{8}$	"	" "	"	"	6	-	5	
438.		"	22 $\frac{1}{2}$	5 $\frac{1}{8}$	"	" "	"	"	10	-	5	
439.	South Western Slopes of Bathurst Range.	"	7 $\frac{3}{8}$	30 $\frac{1}{4}$	17.5.65.	AKH.			6	-	5	
440.		"	7 $\frac{5}{8}$	30 $\frac{1}{2}$	"	"			2	-	4	
441.		"	7 $\frac{3}{4}$	30 $\frac{3}{8}$	"	"			6	-	4	
442.		"	8 $\frac{1}{8}$	30 $\frac{3}{8}$	"	"			2	-	4	
443.		"	8 $\frac{1}{2}$	30 $\frac{3}{8}$	"	"			2	-	4	
444.		"	8 $\frac{1}{2}$	29 $\frac{7}{8}$	"	"			4	-	4	
445.		"	8 $\frac{1}{2}$	29 $\frac{3}{4}$	"	"			2	-	5	
446.		"	8 $\frac{5}{8}$	29 $\frac{5}{8}$	"	"			4	5	5	
447.		"	8 $\frac{7}{8}$	29 $\frac{1}{4}$	"	"			4	-	4	
448.		"	9	29 $\frac{1}{4}$	"	"			2	5	4	
449.		"	9 $\frac{1}{8}$	29 $\frac{1}{8}$	"	"			2	5	5	
450.		"	8 $\frac{7}{8}$	28 $\frac{3}{8}$	"	"			4	5	4	
451.		"	9 $\frac{1}{4}$	28 $\frac{1}{2}$	"	"			2	-	4	
452.		"	9 $\frac{1}{4}$	28 $\frac{3}{4}$	"	"			8	5	4	
453.		"	9 $\frac{3}{8}$	28 $\frac{1}{2}$	"	"			4	5	4	
454.		"	10 $\frac{3}{8}$	28 $\frac{1}{4}$	"	"			4	5	-	
455.		"	10 $\frac{1}{4}$	28 $\frac{1}{4}$	"	"			4	5	3	
456.	Bathurst Range.	78	10 $\frac{1}{2}$	26 $\frac{7}{8}$	"	"			4	5	-	
457.		"	10 $\frac{3}{8}$	28 $\frac{3}{8}$	18.5.65.	"			6	5	-	
458.		"	10 $\frac{7}{8}$	28 $\frac{1}{2}$	"	"			4	5	-	
459.		"	8 $\frac{7}{8}$	30 $\frac{3}{4}$	"	"			2	6	4	
460.		"	8 $\frac{3}{4}$	31	"	"			4	6	-	
461.	South Western Slopes of Bathurst Range.	78	13	26 $\frac{1}{4}$	17.5.65.	FJS.	S.W.	28	2	-	6	
462.		"	12 $\frac{3}{4}$	26 $\frac{1}{4}$	"	"	40	"	4	-	-	
463.		"	12 $\frac{3}{4}$	26 $\frac{3}{4}$	"	"	"	"	4	-	4	
464.		"	12 $\frac{3}{8}$	26 $\frac{7}{8}$	"	"	"	"	2	-	-	

058

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.					
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo	
A.465.	South Western Slopes of Bathurst Range.	7S	12 $\frac{3}{8}$	26 $\frac{3}{8}$	17.5.65.	FJS.	S.W.	28	2	-	-		
466.		"	12 $\frac{1}{8}$	26 $\frac{3}{8}$	"	"	"	40	"	2	-	4	
467.		"	12	26 $\frac{7}{8}$	"	"	"	"	"	2	5	-	
468.		"	11 $\frac{1}{4}$	26 $\frac{3}{8}$	"	"	"	"	"	24	-	-	
469.		"	11 $\frac{1}{4}$	27 $\frac{1}{8}$	"	"	"	"	"	4	5	-	
470.		"	11 $\frac{1}{2}$	26 $\frac{7}{8}$	"	"	"	"	"	4	5	3	
471.		"	11 $\frac{1}{4}$	26 $\frac{7}{8}$	"	"	"	"	"	2	-	-	
472.		"	11	26 $\frac{7}{8}$	"	"	"	"	"	2	-	-	
473.		"	10 $\frac{3}{4}$	27	"	"	"	"	"	8	5	-	
474.		"	8 $\frac{3}{8}$	31 $\frac{1}{8}$	18.5.65.	AKH.	"	"	"	2	5	-	
475.		"	8 $\frac{1}{4}$	31 $\frac{1}{4}$	"	"	"	"	"	2	5	-	
476.		"	7 $\frac{1}{8}$	31	"	"	"	"	"	2	5	4	
477.		"	7 $\frac{1}{8}$	31	"	"	"	"	"	44	6	4	
478.		West of Red Point Hills.	"	"	"	"	JK.	"	"	5	-	21	
479.	"		"	"	"	"	"	"	4	-	3		
480.	North of Point Eric.	"	"	"	"	WDMH	"	"	4	-	3		
481.	New Harbour Range.	7S	4 $\frac{3}{4}$	29 $\frac{3}{8}$	17.5.65.	JK.	S.W.	12	2	6	6		
482.		"	7S	5 $\frac{1}{8}$	29 $\frac{1}{2}$	"	"	41	"	2	5	4	
483.		"	"	5 $\frac{1}{4}$	29 $\frac{3}{8}$	"	"	"	"	4	-	4	
484.		"	"	5 $\frac{1}{8}$	29 $\frac{1}{4}$	"	"	"	"	2	-	4	
485.		"	"	5 $\frac{1}{2}$	29	"	"	"	"	2	-	4	
486.		"	"	5 $\frac{3}{4}$	29 $\frac{1}{8}$	"	"	"	"	2	-	4	
487.		"	"	6	29 $\frac{1}{8}$	"	"	"	"	2	-	4	
488.		"	"	6 $\frac{1}{2}$	29	"	"	"	"	2	5	10	
489.		"	"	6 $\frac{3}{4}$	28 $\frac{7}{8}$	"	"	"	"	2	5	5	
490.		"	"	6 $\frac{3}{4}$	28 $\frac{3}{8}$	"	"	"	"	2	-	4	
491.		"	"	6 $\frac{3}{4}$	28 $\frac{3}{8}$	"	"	"	"	4	-	4	
492.		"	"	6 $\frac{7}{8}$	28 $\frac{1}{4}$	"	"	"	"	2	-	4	
493.		"	"	7	28 $\frac{1}{4}$	"	"	"	"	2	-	5	
494.		"	"	7 $\frac{1}{4}$	28 $\frac{1}{4}$	"	"	"	"	2	5	4	
495.		"	"	7 $\frac{3}{8}$	28 $\frac{1}{4}$	"	"	"	"	2	-	4	
496.		"	"	7 $\frac{1}{2}$	28 $\frac{1}{4}$	"	"	"	"	2	-	4	

Sample No.	Locality	Mosaic			Collected		Photo		Analysis in P.P.M.			
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.497.	New Harbour Range.	7S	7 $\frac{7}{8}$	28	17.5.65.	JK.	S.W.	18	2	-	5	
498.		"	7 $\frac{7}{8}$	27 $\frac{7}{8}$	"	"	41	"	2	-	8	
499.		"	8	27 $\frac{3}{8}$	"	"	"	"	2	5	10	
500.		"	8 $\frac{1}{2}$	27 $\frac{3}{8}$	"	"	"	"	4	-	5	
501.	West of Red Point Hills.	Gap II			31.5.65.	"	AR	27	3	-	6	
502.		"			"	"	19	"	6	-	5	
503.		"			"	"	"	"	48	-	7	
504.		"			"	"	"	"	4	-	21	
505.		"			"	"	"	"	5	-	7	
506.		"			"	"	"	"	4	-	6	
507.		"			"	"	"	"	8	-	6	
508.		"			"	"	"	"	6	-	70	
509.	S.W. of Mt.Counsel				"	"	"	"	5	-	21	
510.	Valley between Horse-shoe Inlet and M.D. house.	7S	23 $\frac{1}{2}$	20 $\frac{7}{8}$	19.5.65.	"	S.W.	25	200	-	14	
511.		"	24	20	"	"	38	"	4	6	5	
512.		"	24 $\frac{1}{2}$	19 $\frac{1}{2}$	"	"	"	"	4	-	3	
513.		"	24 $\frac{1}{2}$	19 $\frac{1}{2}$	"	"	"	"	4	6	5	
514.		6S	$\frac{5}{8}$	25 $\frac{5}{8}$	"	"	"	"	4	5	4	
515.		"	$\frac{3}{4}$	25 $\frac{1}{2}$	"	"	"	"	4	5	4	
516.		"	7 $\frac{7}{8}$	25 $\frac{3}{8}$	"	"	"	"	2	6	5	
517.		"	7 $\frac{7}{8}$	24 $\frac{7}{8}$	"	"	"	"	2	6	6	
518.		"	$\frac{3}{4}$	24 $\frac{3}{8}$	"	"	"	"	4	6	5	
519.		"	$\frac{5}{8}$	25	"	"	"	"	4	5	4	
520.		"	$\frac{3}{8}$	25 $\frac{1}{2}$	"	"	"	"	2	5	4	
521.		"	$\frac{5}{8}$	25 $\frac{1}{2}$	"	"	"	"	4	5	4	
522.		"	$\frac{1}{4}$	25 $\frac{5}{8}$	"	"	"	"	2	5	5	
523.		"	0	25 $\frac{3}{4}$	"	"	"	"	2	6	7	
524.		7S	24 $\frac{5}{8}$	19 $\frac{1}{8}$	"	"	"	"	2	5	6	
525.		"	24 $\frac{1}{4}$	19 $\frac{3}{8}$	"	"	"	"	4	5	5	
526.		"	24 $\frac{1}{4}$	19 $\frac{3}{8}$	"	"	"	"	2	5	6	
527.		"	23 $\frac{7}{8}$	19 $\frac{3}{8}$	"	"	"	"	2	5	4	
528.	"	23 $\frac{3}{4}$	19 $\frac{3}{4}$	"	"	"	"	2	5	14		

060

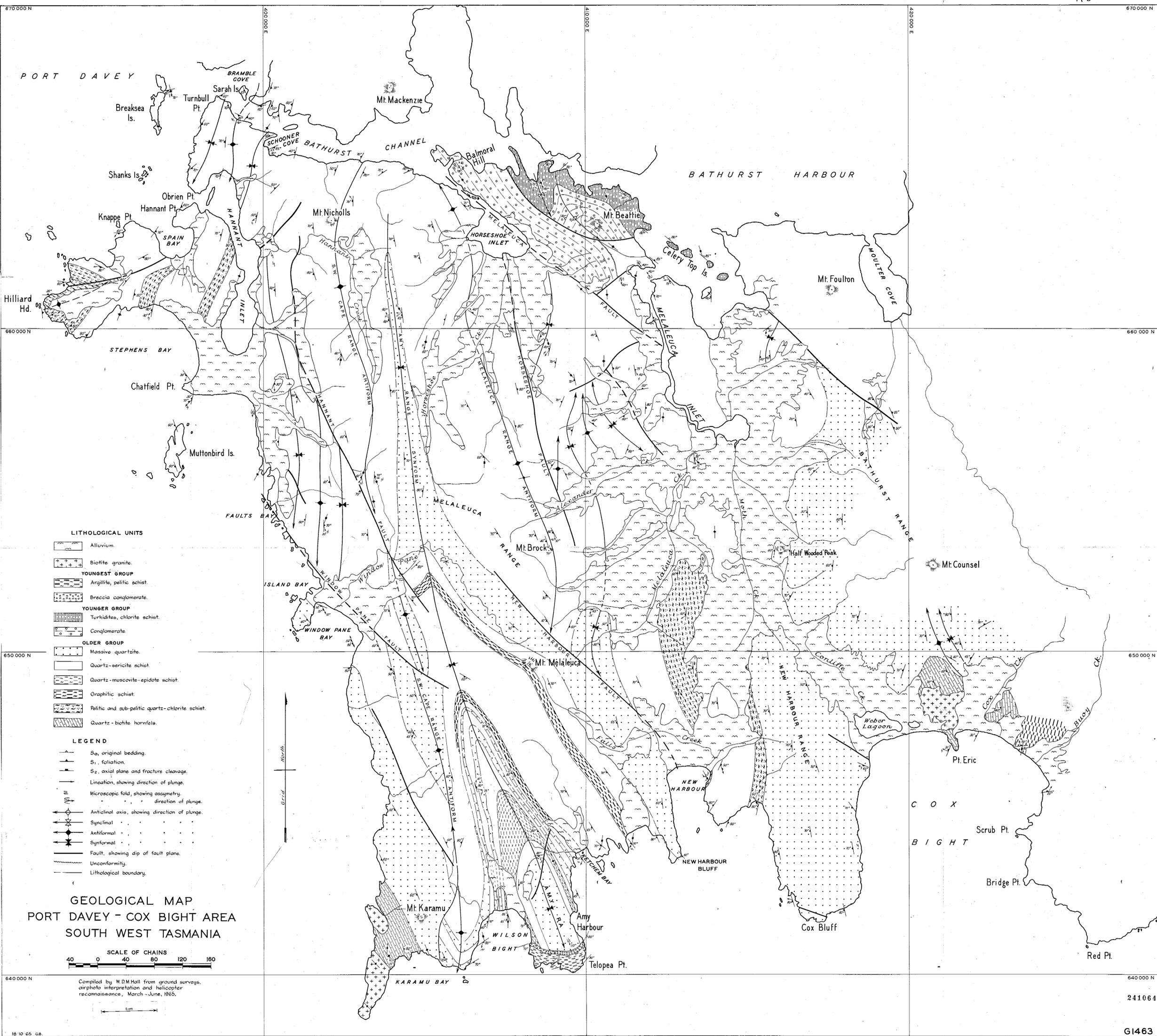
061

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N	"E	Date	By	Run	No.	Sn	Cu	Zn	Mo
A.529.	Valley between Horse-shoe Inlet and M.D. house.	78	23 $\frac{1}{2}$	20	19.5.65.	JK.	S.W.	25	2	5	4	
530.		"	"	23 $\frac{3}{8}$	20 $\frac{1}{2}$	"	"	38	"	2	-	4
531.	Moth Creek and Tributaries.	"	"	"	11.6.65.	WDMH, JK.	S.W. 39	43	4	-	4	
532.		"	"	"	"	" "	"	"	4	-	3	
533.		"	"	"	"	" "	"	"	3	-	4	
534.		"	"	"	"	" "	"	"	5	-	2	
535.		"	"	"	"	" "	"	"	4	-	21	
536.		"	"	"	"	" "	"	"	3	-	9	
537.		"	"	"	"	" "	"	"	5	-	5	
538.		"	"	"	"	" "	"	"	100	-	5	
539.		"	"	"	"	" "	"	"	44	-	6	
540.		"	"	"	"	" "	"	"	42	-	5	
541.		"	"	"	"	" "	"	"	50	-	18	
542.		"	"	"	"	" "	"	"	60	-	6	
543.		"	"	"	"	" "	"	"	28	-	-	
544.		"	"	"	"	" "	"	"	3	-	-	
545.		"	"	"	"	" "	"	"	100	-	16	
546.	"	"	"	"	" "	"	"	40	-	5		
547.	"	"	"	"	" "	"	"	50	-	5		
601.	Cox Bight Area.	Gap II	"	"	21.5.65.	FJB, AKH,	Arthur		2	5	4	
602.		"	"	"	"	KLW.	19	27	2	6	7	
603.		"	"	"	"	" "	"	"	164	8	6	
604.		"	"	"	"	" "	"	"	144	5	4	
605.		"	"	"	"	" "	"	"	4	-	12	
606.		"	"	"	"	" "	"	"	36	-	4	
607.		"	"	"	"	" "	"	"	4	-	4	
608.		"	"	"	"	" "	"	"	18	-	-	
609.		"	"	"	"	" "	"	"	4	-	4	
610.		"	"	"	"	" "	"	"	4	-	4	
611.		"	"	"	"	" "	"	"	8	5	-	
612.		"	"	"	"	" "	"	"	4	5	3	
613.		"	"	"	"	" "	"	"	4	-	4	
	"	"	"	"	" "	"	"	4	-	4		

Sample No.	Locality	Mosaic		Collected		Photo		Analysis in P.P.M.				
		No.	"N"	"E"	Date	By	Run	No.	Ba	Cu	Zn	Mo
A. 615.	Cox Bight Area.	Gap II			21.5.65.	FJS, AKH,	Arthur		2	-	4	
616.		"			"	KLW.	19	27	4	-	4	
617.		"			"	" "	"	"	4	-	6	
618.		"			"	" "	"	"	2	6	6	
619.		"			"	" "	"	"	2	-	4	
620.		"			"	" "	"	"	6	5	5	
621.		"			"	" "	"	"	8	-	4	
622.		"			"	" "	"	"	8	-	4	
623.		"			"	" "	"	"	52	6	6	
624.		"			"	" "	"	"	44	-	4	
625.		"			"	" "	"	"	6	5	5	
626.		"			"	" "	"	"	4	5	4	
627.		"			"	" "	"	"	6	-	4	
628.		"			"	" "	"	"	6	-	4	
629.		"			"	" "	"	"	6	-	4	
630.		"			"	" "	"	"	35	7	5	
631.		"			24.5.65.	AKH, KLW	"	"	14	-	7	
632.		"			"	" "	"	"	16	-	10	
633.		"			"	" "	"	"	8	-	3	
634.		"			"	" "	"	"	5	-	2	

\* Indicates less than value shown.

- Indicates none recorded.



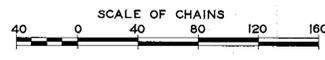
670 000 N  
660 000 N  
650 000 N  
640 000 N

140 000 E  
140 000 E  
140 000 E  
140 000 E  
142 000 E  
142 000 E

- LITHOLOGICAL UNITS**
- Alluvium.
  - Biotite granite.
  - YOUNGEST GROUP**
  - Argillite, pelitic schist.
  - Breccia conglomerate.
  - YOUNGER GROUP**
  - Turkhdites, chlorite schist.
  - Conglomerate.
  - OLDER GROUP**
  - Massive quartzite.
  - Quartz-sericite schist.
  - Quartz-muscovite-epidote schist.
  - Graphitic schist.
  - Pelitic and sub-pelitic quartz-chlorite schist.
  - Quartz-biotite hornfelsa.

- LEGEND**
- S<sub>0</sub>, original bedding.
  - S<sub>1</sub>, foliation.
  - S<sub>2</sub>, axial plane and fracture cleavage.
  - Lineation, showing direction of plunge.
  - Microscopic fold, showing asymmetry, direction of plunge.
  - Anticlinal axis, showing direction of plunge.
  - Synclinal.
  - Antiformal.
  - Synformal.
  - Fault, showing dip of fault plane.
  - Unconformity.
  - Lithological boundary.

**GEOLOGICAL MAP  
PORT DAVEY - COX BIGHT AREA  
SOUTH WEST TASMANIA**



Compiled by W.D.M. Hall from ground surveys, airphoto interpretation and helicopter reconnaissance, March - June, 1965.



241064

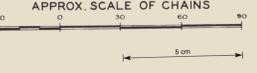
G1463

PORT  
DAVEY

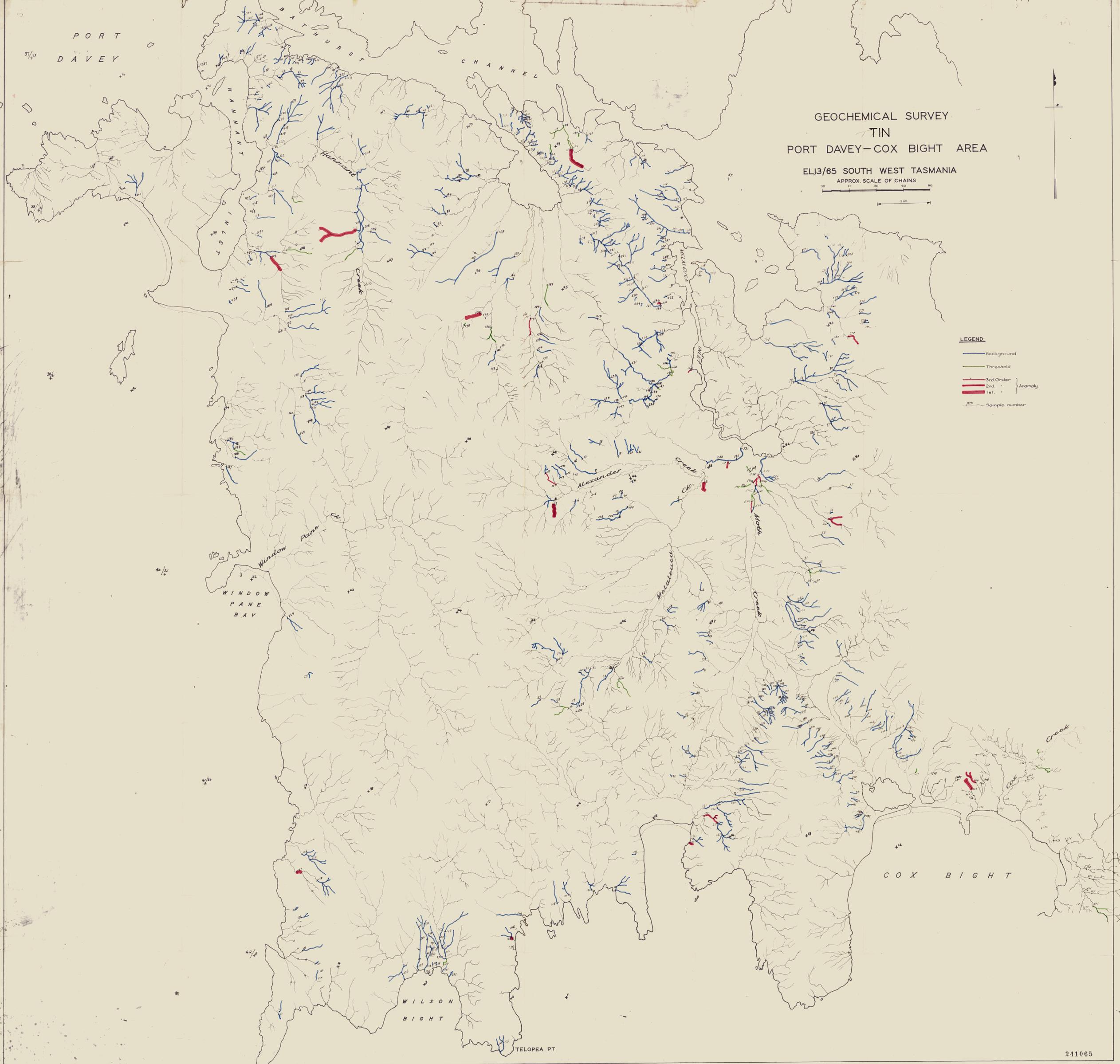
HANNAH  
DAVEY  
HURST  
CHANNEL

GEOCHEMICAL SURVEY  
TIN  
PORT DAVEY-COX BIGHT AREA

EL13/65 SOUTH WEST TASMANIA



- LEGEND:**
- Background
  - Threshold
  - 3rd Order
  - 2nd .
  - 1st .
  - Anomaly
  - Sample number

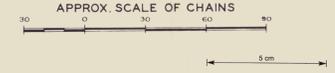


PORT  
DAVEY



GEOCHEMICAL SURVEY  
COPPER  
PORT DAVEY-COX BIGHT AREA

EL13/65 SOUTH WEST TASMANIA  
APPROX. SCALE OF CHAINS



- LEGEND:**
- Background
  - Threshold
  - 3rd Order } Anomaly
  - 2nd
  - 1st
  - Sample number

WINDOW  
PANE  
BAY

WILSON  
BIGHT

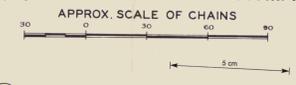
COX BIGHT

TELOPEA PT

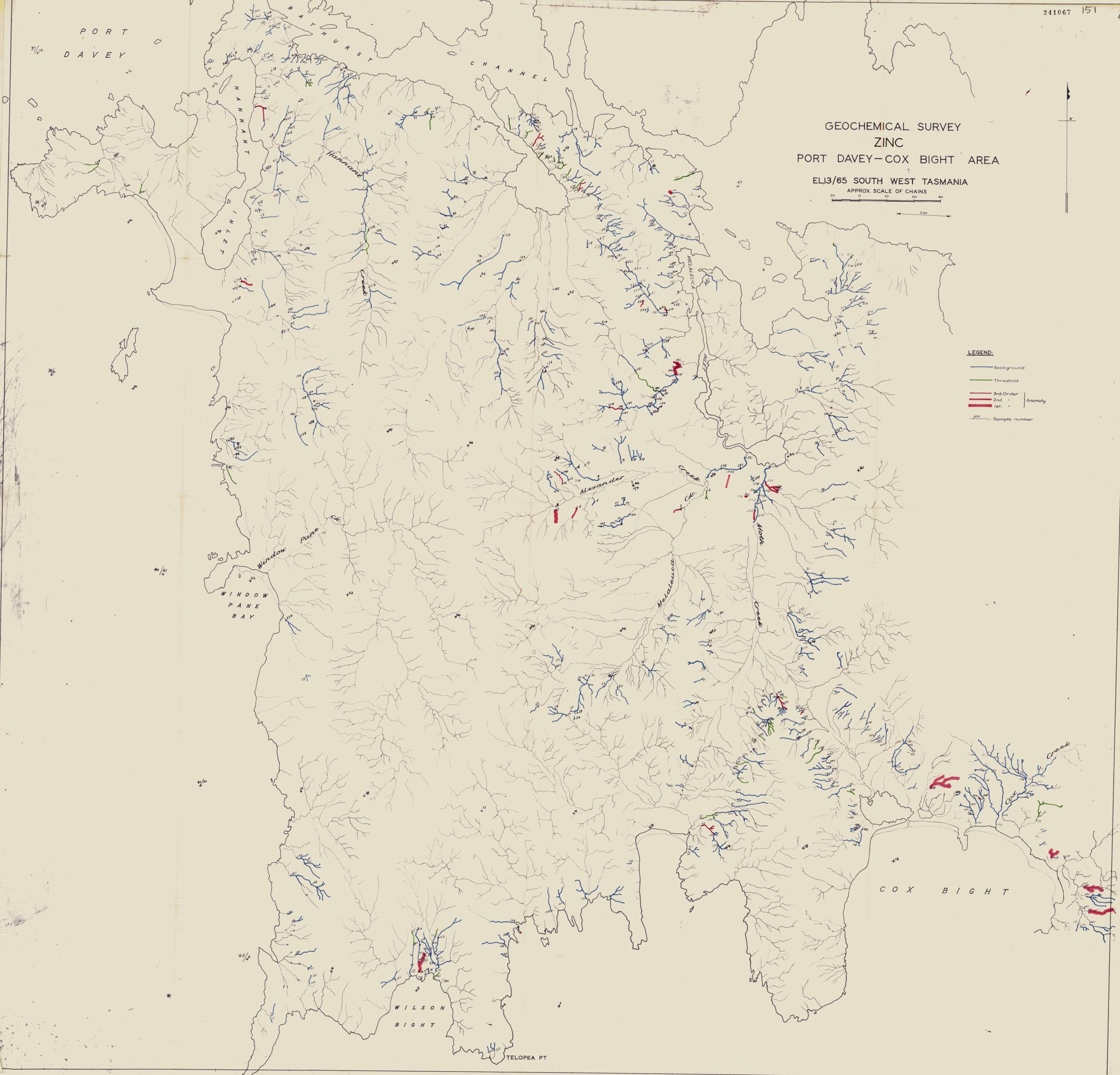
PORT  
DAVEY

# GEOCHEMICAL SURVEY ZINC PORT DAVEY-COX BIGHT AREA

ELI3/65 SOUTH WEST TASMANIA



- LEGEND:**
- Background
  - Threshold
  - 3rd Order
  - 2nd Order
  - 1st Order
  - Anomaly
  - Sample number



WINDOW  
PANE  
BAY

WILSON  
BIGHT

TELOPEA PT

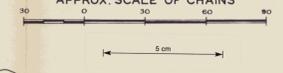
COX BIGHT

PORT  
DAVEY

BATHURST  
CHANNEL

### GEOCHEMICAL SURVEY COPPER-TIN-ZINC ANOMALIES PORT DAVEY-COX BIGHT AREA

EL13/65 SOUTH WEST TASMANIA  
APPROX. SCALE OF CHAINS



**LEGEND:**

Copper anomalies	3rd. order
	2nd. "
	1st. "
Tin anomalies	3rd. order
	2nd. "
	1st. "
Zinc anomalies	3rd. order
	2nd. "
	1st. "
Sample number	27
Area of interest	3

