

MINERAUX PROPRIETARY LTD
723 Burwood Road Hawthorn Vic

RECONNAISSANCE GEOCHEMICAL
SURVEY

Lilydale Tasmania

May 1970

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MICROFILMED**RECONNAISSANCE GEOCHEMICAL SURVEY**

Lilydale, Tasmania, May, 1970

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001

1. Introduction

The following report has been prepared for Mr Graham James Roberts, and covers a preliminary geochemical reconnaissance program over a selected part of an exploration area in Lilydale district of North-Eastern Tasmania.

2. Summary and Conclusions

In all, 144 Stream Sediment samples were taken at about half-mile intervals covering an area of about 30 square miles. The samples were prepared and analysed for Tin (Sn) and Tungsten (W), being the two elements considered most likely to occur in the area.

Whereas results of the tungsten analysis must be regarded as inconclusive, due to their low values, two areas of interest were in fact outlined, and the tin assays, when plotted, show a definite anomaly arising in the South-West corner of the area under survey which significantly is coincident with one of the areas of interest for tungsten. Although it is unwise to place too much emphasis on absolute values obtained from a regional survey of this sort, the Tin values are most interesting and it is recommended that follow up work be undertaken to trace this anomaly to its source.

3. Area Surveyed

As no economic mineralization had previously been reported with the exception of alluvial gold from within the L'isle Golconda area, it was decided to restrict the reconnaissance to surround known and possible areas of granite intrusives as discussed in the preliminary report on the subject. This, in effect, cut down the area to be surveyed from 200 square miles to about 30, and surrounded the L'isle Nabowla area, to the east of Lilydale, as indicated on Map 1.

4. The Geochemical Program

Following an analysis of drainage density from the area it was decided that stream sediment samples should be taken about every half mile to give optimum results on a regional survey.

The program was carried out by a two man field party under supervision of a geologist and was completed in two weeks. The samples were then returned to Melbourne where they were prepared and analysed by Minex Analytical Laboratories Pty. Ltd. for Tin and Tungsten, using Colourimetric methods. The results are listed in Tables 1 and 2 of this report.

5. Discussion of Results

a) TIN

Graph 1, a frequency diagram for the value of tin assay indicates figure of 300 parts per million Tin to be the upper threshold for the regional background, and that samples above this figure are anomalous. Sample 97, with a value of 16000 PPM, or 1.6% is extremely high and was verified by a duplicate assay. A value of this order would require some tin mineral to be present in the actual sample and as the sample occurs within the anomaly it must be regarded as significant.

Results are plotted on the accompanying map using various symbols for different level of results. If levels from threshold up are taken as meaningful, then quite a clear cut anomaly is indicated on the L'isle area. This anomaly can be traced up the main stream to the point where the tributaries as well as the main stream course become high in Tin, and importantly the values cut back again quite sharply to background values higher upstream, indicating the source of the high values has been passed. As mentioned earlier it is most significant that the very high sample occurs here.

b) TUNGSTEN

Similarly, Graph 2 plots Tungsten value in parts per million against the frequency of its occurrence in the samples taken.

From this graph the threshold value appears to be 5 PPM and values above this figure can be regarded as weakly anomalous, one sample, No. 50, has a comparatively high value of 22 PPM. The results when plotted on Map 2 indicate two areas of interest, one 3 miles SSE of Nabowla and the other coincident with the upper reaches of the tin anomaly at L'isle.

Likely reasons for tin anomaly :- The sample results do not appear to be geologically controlled as field evidence gives nothing to suggest that higher values are related to different rock types e.g. that samples taken over granite are higher than those over sediments.

Another possibility, that old alluvial mining activity in the area has been responsible for liberating a greater amount of tin into the streams does not seem likely, in view of the level results obtained and that the area of the anomaly does not coincide with areas of greatest alluvial mining activity.

In our opinion the most probable reason for the anomaly is the liberation of small amounts of tin and tungsten from narrow mineralized quartz veins which may cut across the source of the anomaly. In fact, several small (a few inches wide) quartz veins, which appeared mineralized to some degree were observed in both areas of interest.

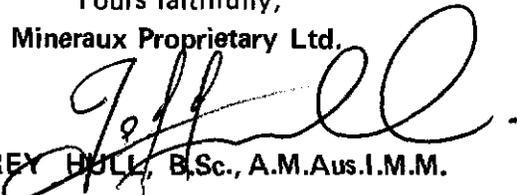
RECOMMENDATIONS

It is recommended that follow up work be initiated to check out the source of the Tin anomaly in the L'isle area, and the small tungsten anomaly south of Nabowla. It appears most likely, at this stage, that any mineralization which may be present is being liberated from small veins or veinlets, which will probably prove far too narrow to be of importance, but it will be necessary to make sure by a more detailed survey.

This next stage would consist of a detailed geological investigation at the site of the anomaly, assisted if necessary by close spaced follow up soil sampling, particularly in the immediate area of the very high tin sample.

It is estimated that such a program would be of a similar duration and cost to this present exercise.

Yours faithfully,
Mineraux Proprietary Ltd.


JEFFREY HULL, B.Sc., A.M.Aus.I.M.M.

003

Data base nos 4501-4648

TABLE 1

003004

GEOCHEMICAL ASSAY RESULTS — TIN

| <u>Sample No.</u> | <u>Sn PPM</u> | <u>Sample No.</u> | <u>Sn PPM</u> |
|-------------------|---------------|-------------------|---------------|
| G 1 | 4501 500 | 37 | 4537 200 |
| 2 | 200 | 38 | 200 |
| 3 | 200 | G 39 | 200 |
| 4 | 300 | 40 | 300 |
| 5 | 200 | 41 | 200 |
| 6 | 300 | 42 | 200 |
| 7 | 100 | 43 | 200 |
| 8 | 400 | 44 | 200 |
| < 9 | 100 | G 45 | 300 |
| G 10 | 4510 100 | 46 | 100 |
| 11 | 100 | 47 | 100 |
| 12 | 100 | 48 | 600 |
| 13 | 100 | 49 | No Sample |
| 14 | 200 | G 50 | 300 |
| G 15 | 300 | 51 | 200 |
| 16 | 100 | 52 | 300 |
| < 17 | 100 | < 53 | 100 |
| 18 | 200 | 54 | 300 |
| 19 | 100 | 55 | 300 |
| G 20 | 4520 200 | 56 | 100 |
| 21 | 100 | 57 | 200 |
| 22 | 300 | 58 | 100 |
| 23 | 100 | 59 | 300 |
| 24 | 100 | G 60 | 100 |
| G < 25 | 100 | < 61 | 100 |
| 26 | 200 | 62 | 100 |
| < 27 | 100 | 63 | 200 |
| 28 | 200 | G 64 | No sample |
| < 29 | 4529 100 | 65 | 100 |
| 29A | 4648 100 | 66 | 300 |
| G 30 | 4530 200 | 67 | 200 |
| 31 | 100 | 68 | 200 |
| G 32 | 200 | < 69 | 100 |
| < 33 | 100 | G 70 | 100 |
| 34 | 200 | 71 | 200 |
| 35 | 400 | 72 | 300 |
| 36 | 4536 300 | < 73 | 4573 100 |

< Less than

004

Geochemical Assay Results - Tin (Cont.)

Data base nos 003005
2.

| <u>Sample No.</u> | <u>Sn PPM</u> | <u>Sample No.</u> | <u>Sn PPM</u> |
|-------------------|---------------------------------|-------------------|---------------|
| < 74 | 4574 100 | 112 | 4612 300 |
| G 75 | 100 | 113 | 300 |
| < 76 | 100 | 114 | 200 |
| < 77 | 100 | G 115 | 200 |
| 78 | 100 | 116 | 100 |
| 79 | No Sample LOCALITY NOT RECORDED | 117 | 200 |
| G 80 | 300 | 118 | 300 |
| 81 | 200 | 119 | 200 |
| 82 | 400 | G 120 | 400 |
| 83 | 200 | 121 | 300 |
| 84 | 500 | 122 | 400 |
| G 85 | 300 | 123 | 200 |
| 86 | 300 | 124 | 200 |
| 87 | 100 | G 125 | 200 |
| 88 | 300 | 126 | 500 |
| 89 | 200 | 127 | 100 |
| G 90 | 300 | 128 | 200 |
| 91 | 16100 | 129 | 200 |
| 92 | 200 LOCALITY NOT RECORDED | G < 130 | 100 |
| 93 | 300 | 131 | 200 |
| 94 | 200 | G 132 | 100 |
| G 95 | 300 | 133 | 200 |
| 96 | 400 | 134 | No Sample |
| 97 | 500 | G 135 | 200 |
| G < 98 | 100 | 136 | 200 |
| 99 | 4599 200 | 137 | 300 |
| 100 | 4600 300 | 138 | 200 |
| 101 | 400 | < 139 | 100 |
| 102 | 500 | G 140 | 700 |
| 103 | 200 | 141 | 200 |
| 104 | 300 | 142 | 100 |
| G 105 | 300 | 143 | 200 |
| 106 | 200 | 144 | 300 |
| 107 | 200 | G < 145 | 100 |
| 108 | 200 | < 146 | 100 |
| 109 | 400 | 147 | 4647 300 |
| G 110 | 300 | | |
| 111 | 4611 400 | | |

005

Data base nos.

TABLE 2

003006

GEOCHEMICAL ASSAY RESULTS — TUNGSTEN

| <u>Sample No.</u> | <u>W Ppm</u> | <u>Sample No.</u> | <u>W Ppm</u> |
|-------------------|--------------|-------------------|--------------|
| G 1 | 4501 4 | 38 | 4538 8 |
| 2 | 5 | 39 | 4 |
| < 3 | 2 | G 40 | 4 |
| 4 | 6 | 41 | 4 |
| < 5 | 2 | 42 | 2 |
| 6 | 4 | 43 | 4 |
| < 7 | 2 | < 44 | 2 |
| 8 | 8 | 45 | 2 |
| < 9 | 2 | 46 | 2 |
| G 10 | 2 | 47 | 3 |
| 11 | 3 | 48 | 5 |
| 12 | 2 | 49 | No Sample |
| < 13 | 2 | G 50 | 22 |
| < 14 | 2 | < 51 | 2 |
| 15 | 4 | < 52 | 2 |
| 16 | 2 | 53 | 3 |
| 17 | 4 | < 54 | 2 |
| 18 | 2 | 55 | 3 |
| < 19 | 2 | 56 | 4 |
| G 20 | 2 | 57 | 5 |
| 21 | 5 | 58 | 4 |
| 22 | 4 | 59 | 6 |
| < 23 | 2 | G 60 | 3 |
| < 24 | 2 | 61 | 3 |
| < 25 | 2 | 62 | 2 |
| < 26 | 2 | < 63 | 2 |
| 27 | 3 | 64 | No Sample |
| 28 | 8 | G 65 | 3 |
| 29 | 6 | 66 | 4 |
| G 30 | 4 | 67 | 4567 3 |
| 31 | 4 | G < 29A | 4648 2 |
| 32 | 8 | 68 | 4568 6 |
| < 33 | 2 | 69 | 5 |
| 34 | 2 | 70 | 1 |
| 35 | 4 | 71 | 2 |
| < 36 | 2 | 72 | 2 |
| < 37 | 4537 2 | 73 | 4573 5 |

< Less than

006

003007

Geochemical Assay Results - Tungsten (Cont.)

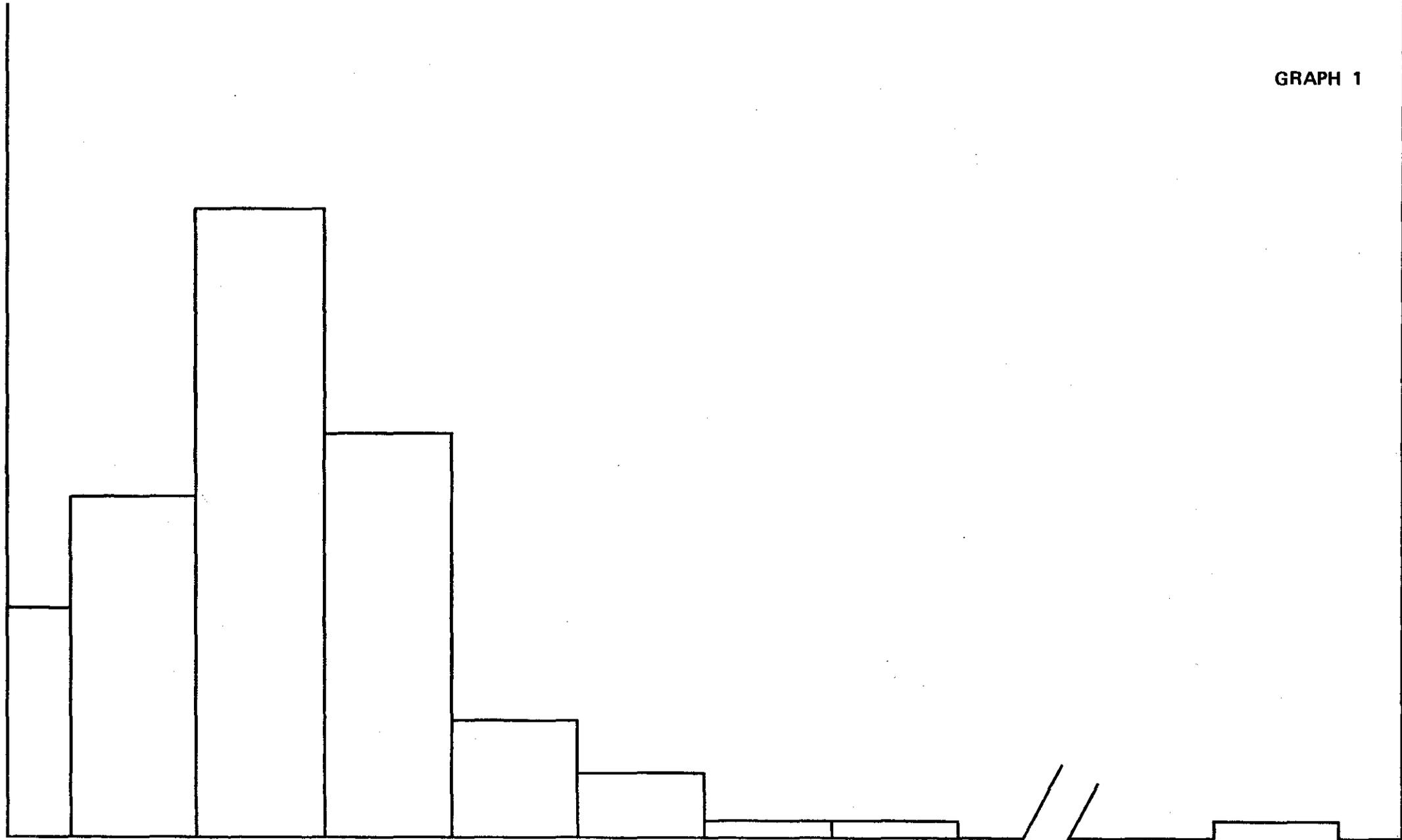
| <u>Sample No.</u> | <u>W Ppm</u> | <u>Sample No.</u> | <u>W Ppm</u> |
|-------------------|--------------|-------------------|--------------|
| 74 | 4574 | < 112 | 4612 |
| 75 | | < 113 | |
| 76 | | < 114 | |
| 77 | | 115 | |
| 78 | | 116 | |
| < 79 | | < 117 | |
| G 80 | | < 118 | |
| < 81 | | < 119 | |
| 82 | | 120 | |
| 83 | | 121 | |
| 84 | | 122 | |
| 85 | | 123 | |
| 86 | | 124 | |
| 87 | | 125 | |
| 88 | | 126 | |
| 89 | | < 127 | |
| G 90 | | 128 | |
| 91 | | < 129 | |
| 92 | | G < 130 | |
| 93 | | 131 | |
| 94 | | 132 | |
| 95 | | G 133 | |
| 96 | | 134 | No Sample |
| 97 | | 135 | |
| 98 | | 136 | |
| G 99 | 4599 | 137 | |
| G < 100 | 4600 | 138 | |
| < 101 | | 139 | < 2 |
| 102 | | G 140 | |
| 103 | | 141 | |
| 104 | | 142 | |
| 105 | | 143 | |
| 106 | | 144 | |
| 107 | | 145 | |
| < 108 | | 146 | |
| < 109 | | G 147 | 4647 |
| G 110 | | | |
| < 111 | 4611 | | |

003008

GRAPH 1

FREQUENCY

50
40
30
20
10



100 200 300 400 500 600 700 16000 Sn PPM

200

003009

GRAPH 2

FREQUENCY

40

30

20

10

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

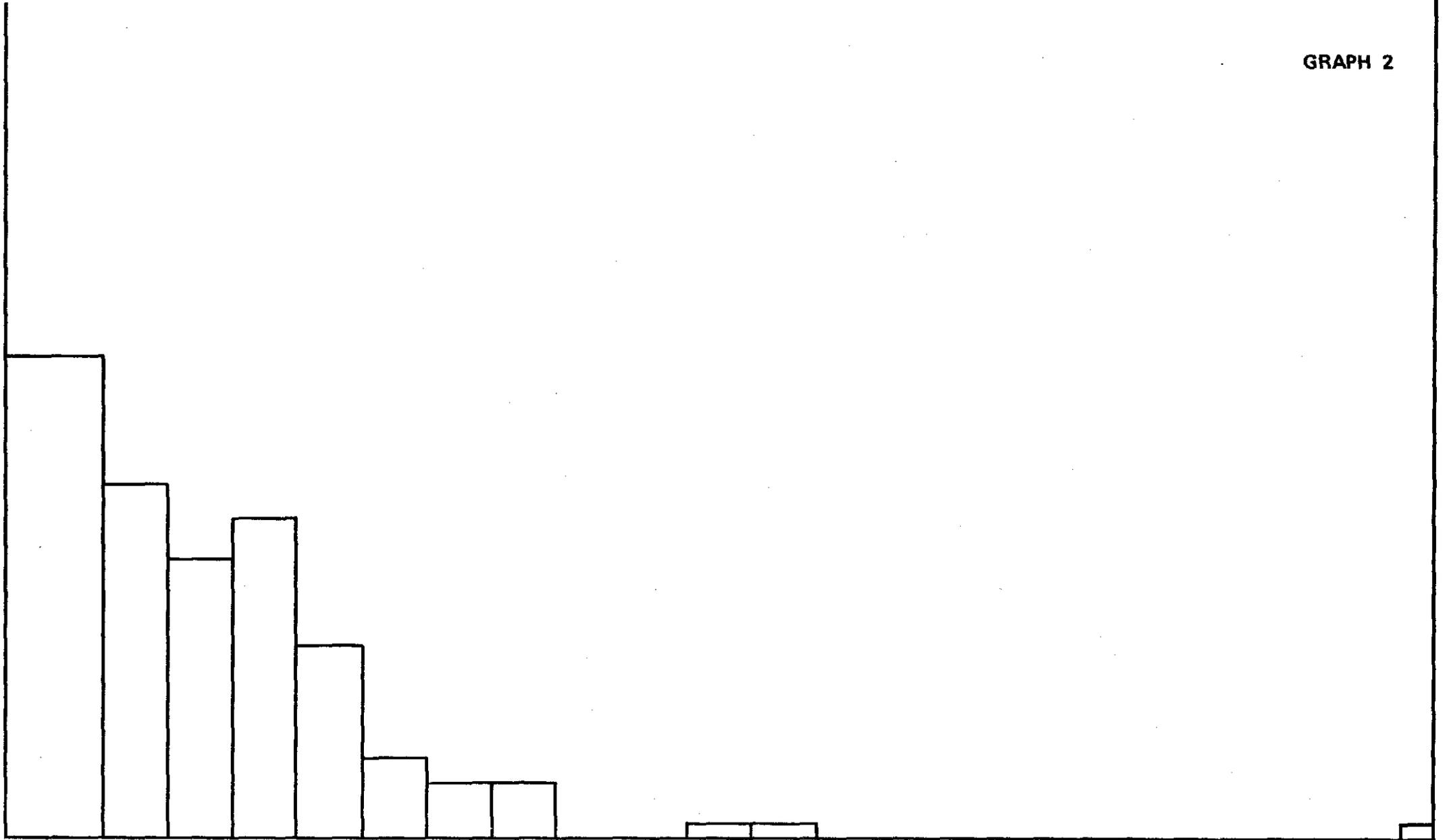
19

20

21

22

W PPM



800

009

003010

70-637

NOTES ON RECONNAISSANCE ~~OF~~ ^{GEOCHEMICAL} ~~GEOPHYSICAL~~ SURVEY
FOR MR. GRAHAM JAMES ROBERTS, LILYDALE.

As we are not in possession of all the information collected by the Consultants or of their methods of working, terms of reference and other matters, it is difficult to comment freely on the report. However, the following comments are offered:-

- (1) As there is a detailed 1 mile to 1 inch geological regional map of this area (Piper's River) it is surprising to note that there has been no apparent effort made to relate the geophysical results to the known geology.
- (2) As the area is well known as a gold province and as molybdenum has been reported in the area previously, it is surprising that the samples were not analysed for Copper, Mo, Au, Ag, as well as tin and tungsten.
- (3) The granodiorite in this district is not recognised as a source of tin where it occurs in other districts throughout North-Eastern Tasmania. In contrast this rock is more usually associated with Copper, Mo, Au, Ag. It is suggested that it would be worthwhile to re-sample and re-assay particularly in the area around the highest tin anomaly and at the same time to obtain further samples (either soil or stream samples) up-stream or up-slope of the high anomalous tin sample located. It would be preferable to have the assays carried out at an independent laboratory.
- (4) It seems desirable to attempt to correlate geochemical anomalies so far located with the known geology as there seems to be a relationship between these and the contact metamorphic aureole surrounding the granodiorite masses.
- (5) Detailed soil geochemistry should be carried out following the above around the anomalous areas so far detected.

D.C.

TASMANIA

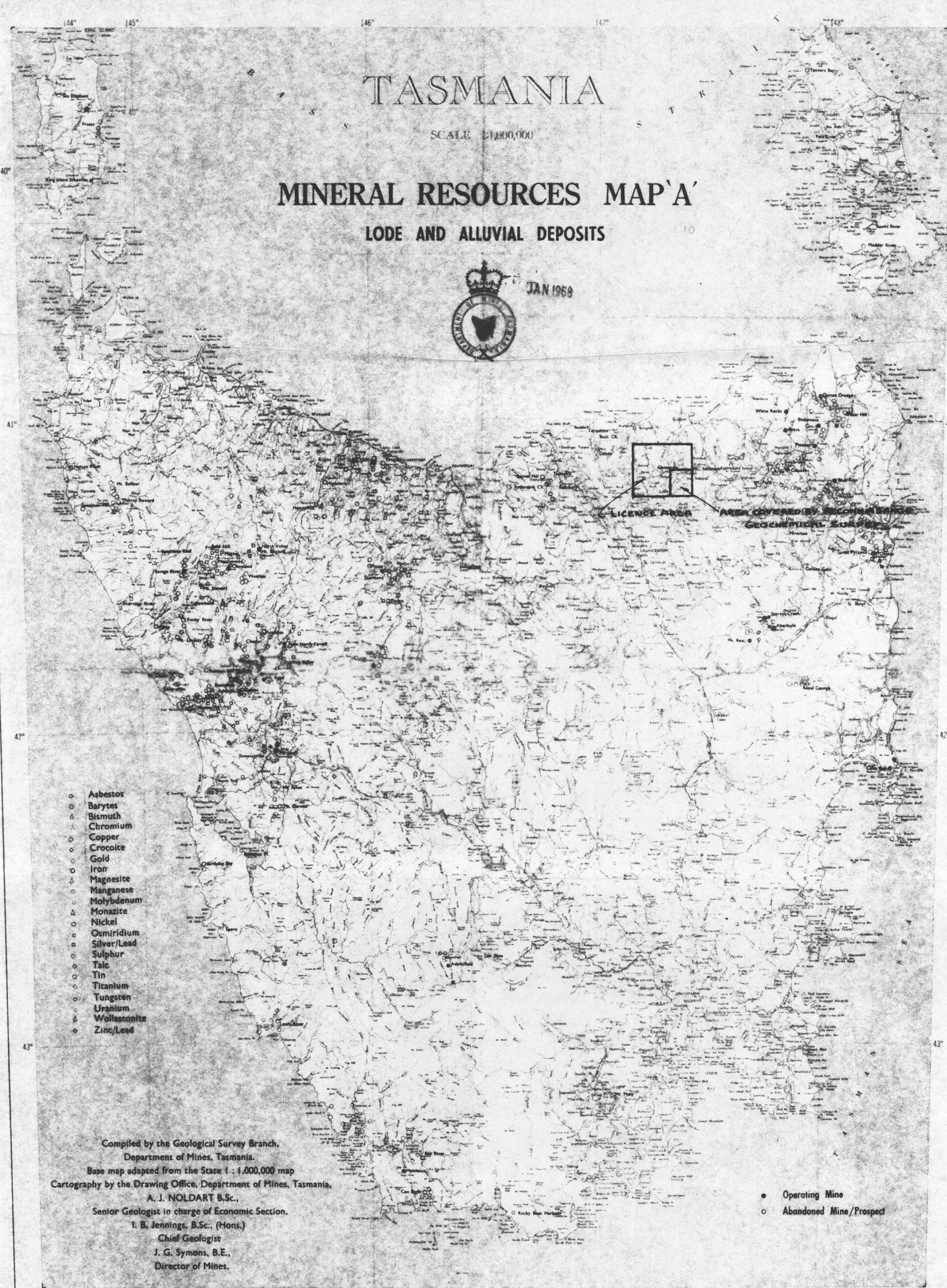
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MINERAL RESOURCES MAP 'A'

LODE AND ALLUVIAL DEPOSITS



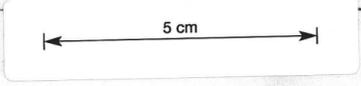
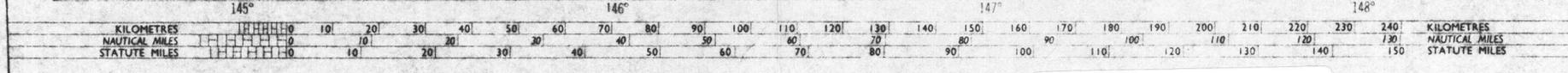
JAN 1969



- Asbestos
- Barytes
- △ Bismuth
- Chromium
- Copper
- Crocoite
- Gold
- Iron
- △ Magnesite
- Manganese
- Molybdenum
- △ Monazite
- Nickel
- Osmiridium
- Silver/Lead
- Sulphur
- Talc
- Tin
- Titanium
- Tungsten
- Uranium
- △ Wollastonite
- Zinc/Lead

Compiled by the Geological Survey Branch,
 Department of Mines, Tasmania.
 Base map adapted from the State 1 : 1,000,000 map
 Cartography by the Drawing Office, Department of Mines, Tasmania,
 A. J. NOLDART B.Sc.,
 Senior Geologist in charge of Economic Section.
 I. B. JENNINGS, B.Sc., (Hons.)
 Chief Geologist
 J. G. SYMONS, B.E.,
 Director of Mines.

- Operating Mine
- Abandoned Mine/Prospect

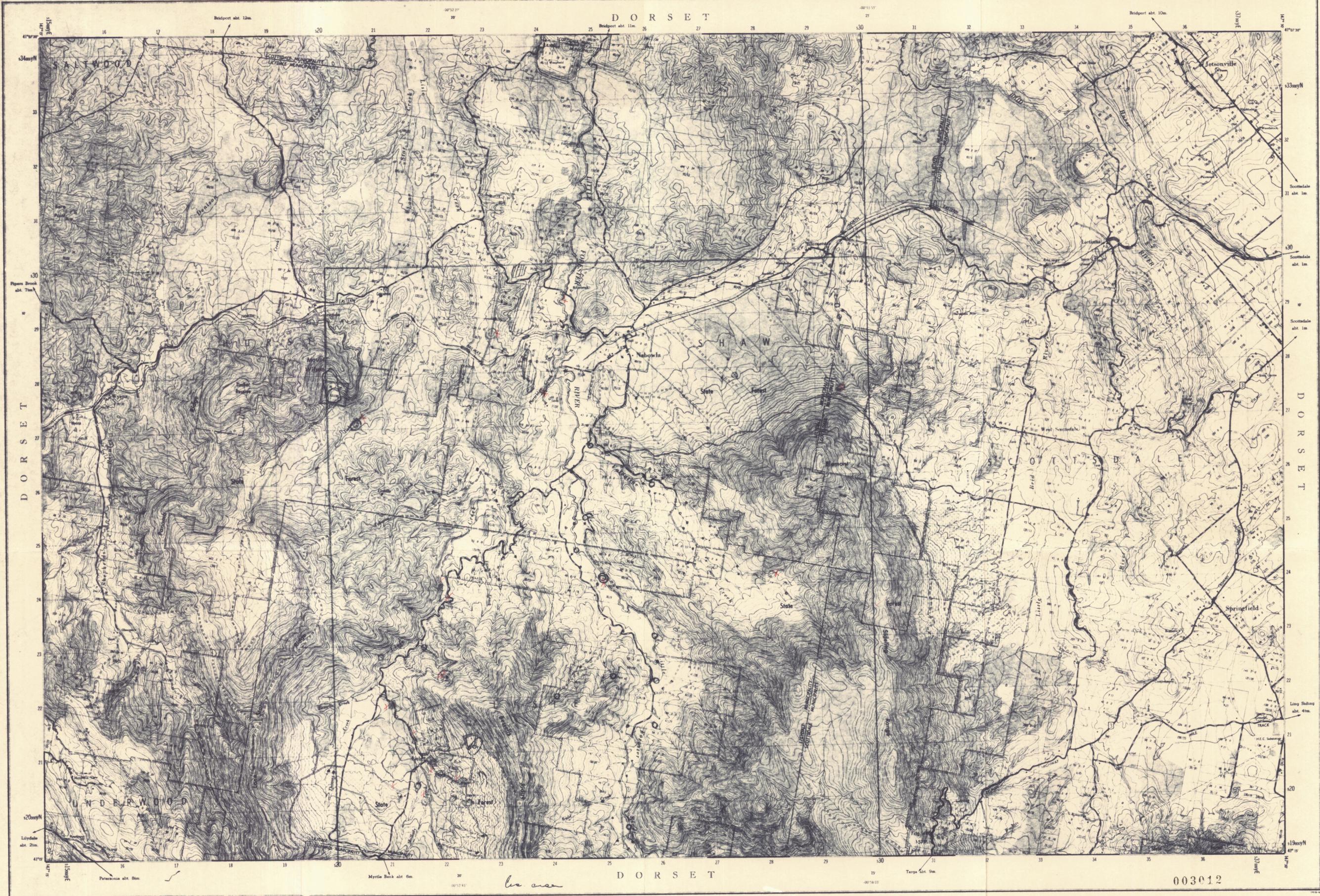


MERCURY HOBART

NABOWLA

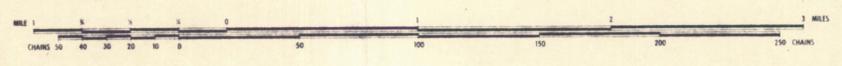
(Previously Pipers River D)

AUSTRALIA 1:31,680



003012

TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7



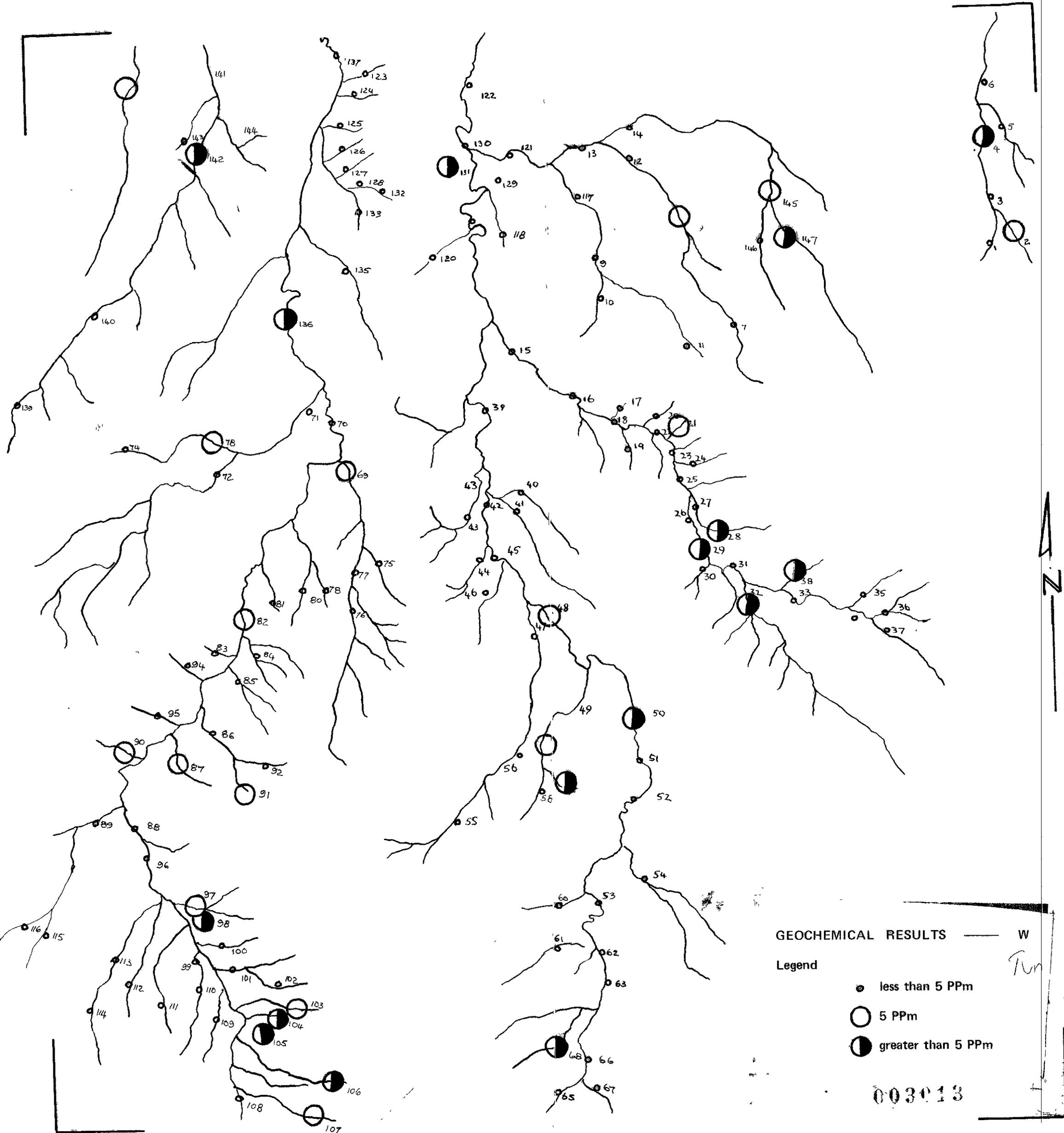
SCALE 40 CHAINS TO 1 INCH
CONTOUR INTERVAL 25 FEET



TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7

2388





GEOCHEMICAL RESULTS — W

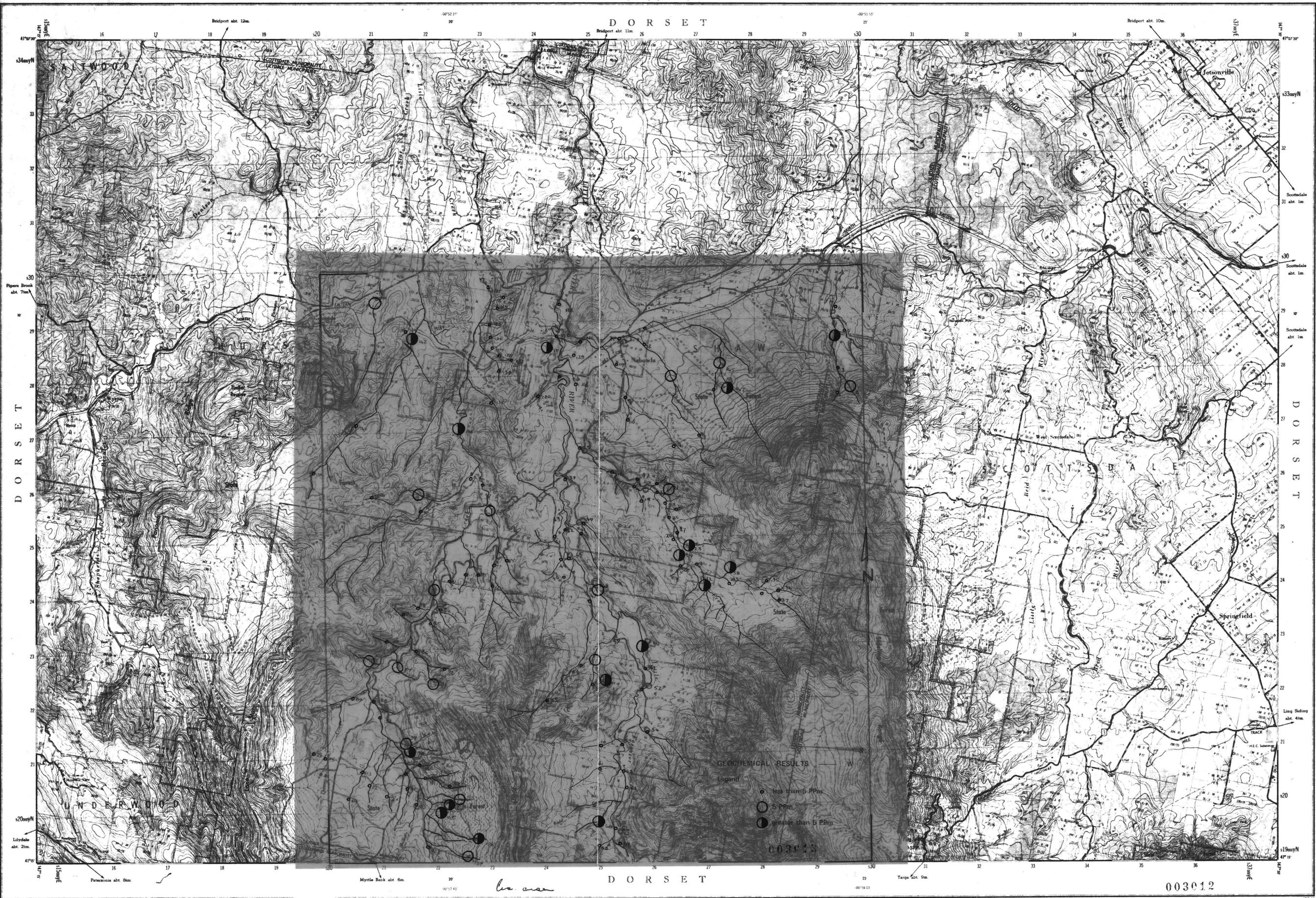
Legend

- less than 5 PPM
- 5 PPM
- greater than 5 PPM

003013

NABOWLA

(Previously Pipers River D)



TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7

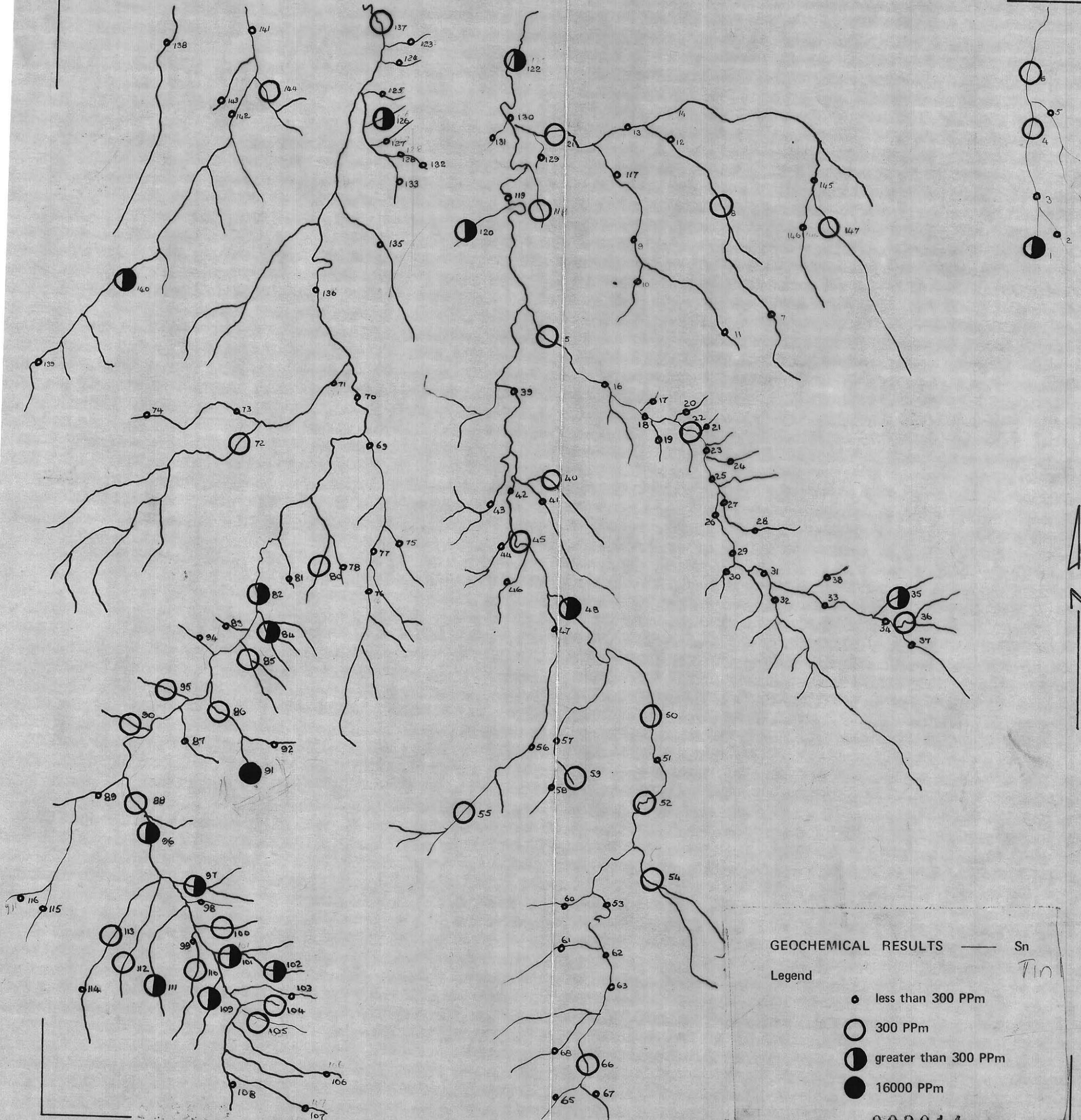


SCALE 40 CHAINS TO 1 INCH
CONTOUR INTERVAL 25 FEET



TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7





GEOCHEMICAL RESULTS — Sn
 Tin

Legend

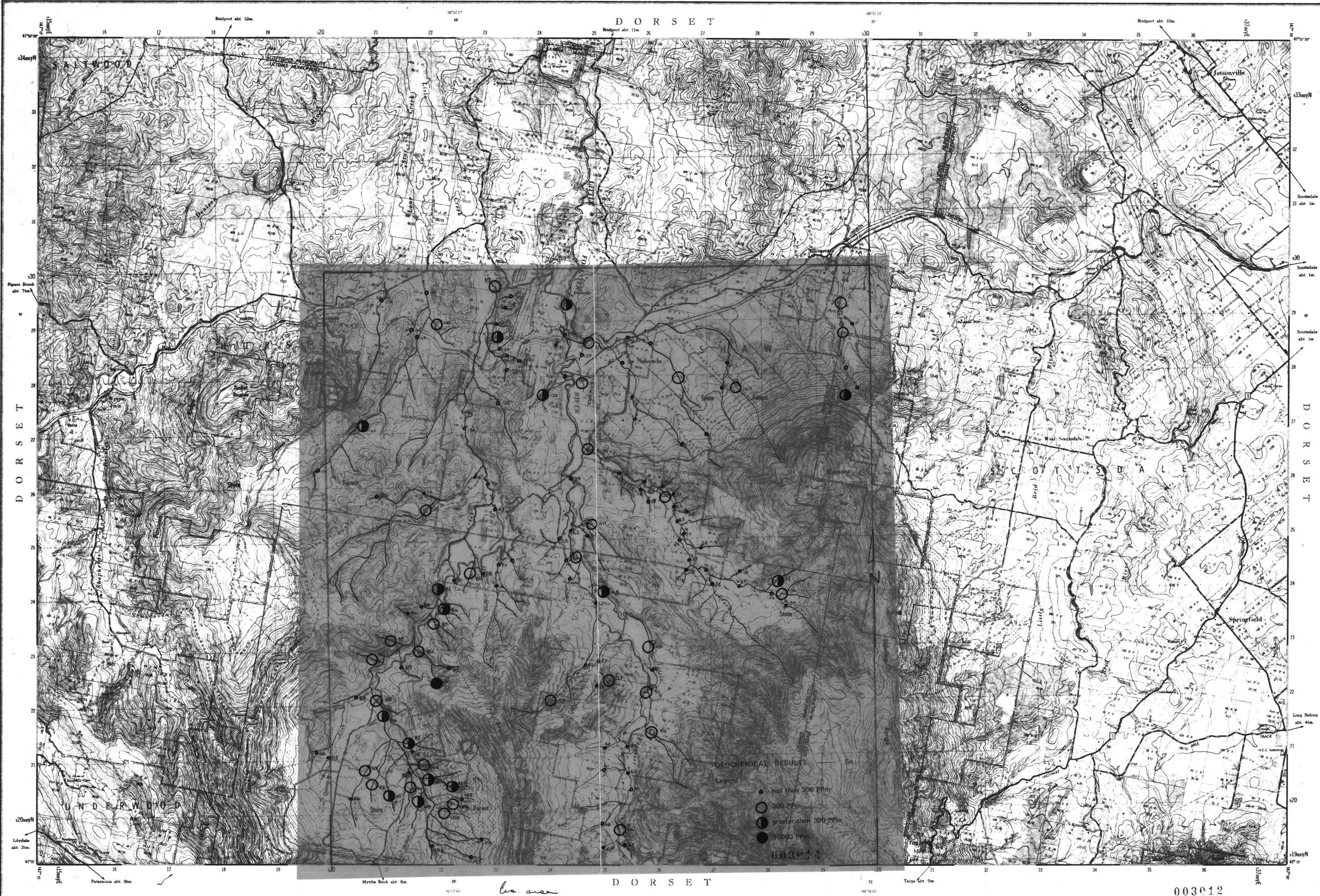
- less than 300 PPM
- 300 PPM
- ◐ greater than 300 PPM
- 16000 PPM

003014

NABOWLA

(Previously Pipers River D)

DORSET



GEOCHEMICAL RESULTS — Sn

Legend

- less than 300 PPM
- 300 PPM
- greater than 300 PPM
- 16000 PPM

003012

DORSET

TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7



SCALE 40 CHAINS TO 1 INCH
CONTOUR INTERVAL 25 FEET



TASMANIA
TOPOGRAPHIC SERIES
NABOWLA
8315-I-S
ZONE 7

