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Prospect 603

772001

CSR LIMITED - MINERALS DIVISION

EXPLORATION GROUP

FERNTREE HILL SOIL SAMPLING PROGRAMME

E.L. 11/78 - GEORGE RIVER

TASMANIA

15 JUN 1982

EMR 89/82

HOBART
March 1982

P.D. ELLIS

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CONTENTS

APPENDICES

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LIST OF ILLUSTRATIONS

KEYWORDS

TASMANIA	EXPLORATION
MINERALISATION	TIN
ALLUVIAL	GOECHEMISTRY
SOIL	SAMPLING
GREISEN	1981
ASSAY	GRANITE
PERCUSSION	DRILLING
SK 554	EL 11/78
FERNTREE HILL	REPORT

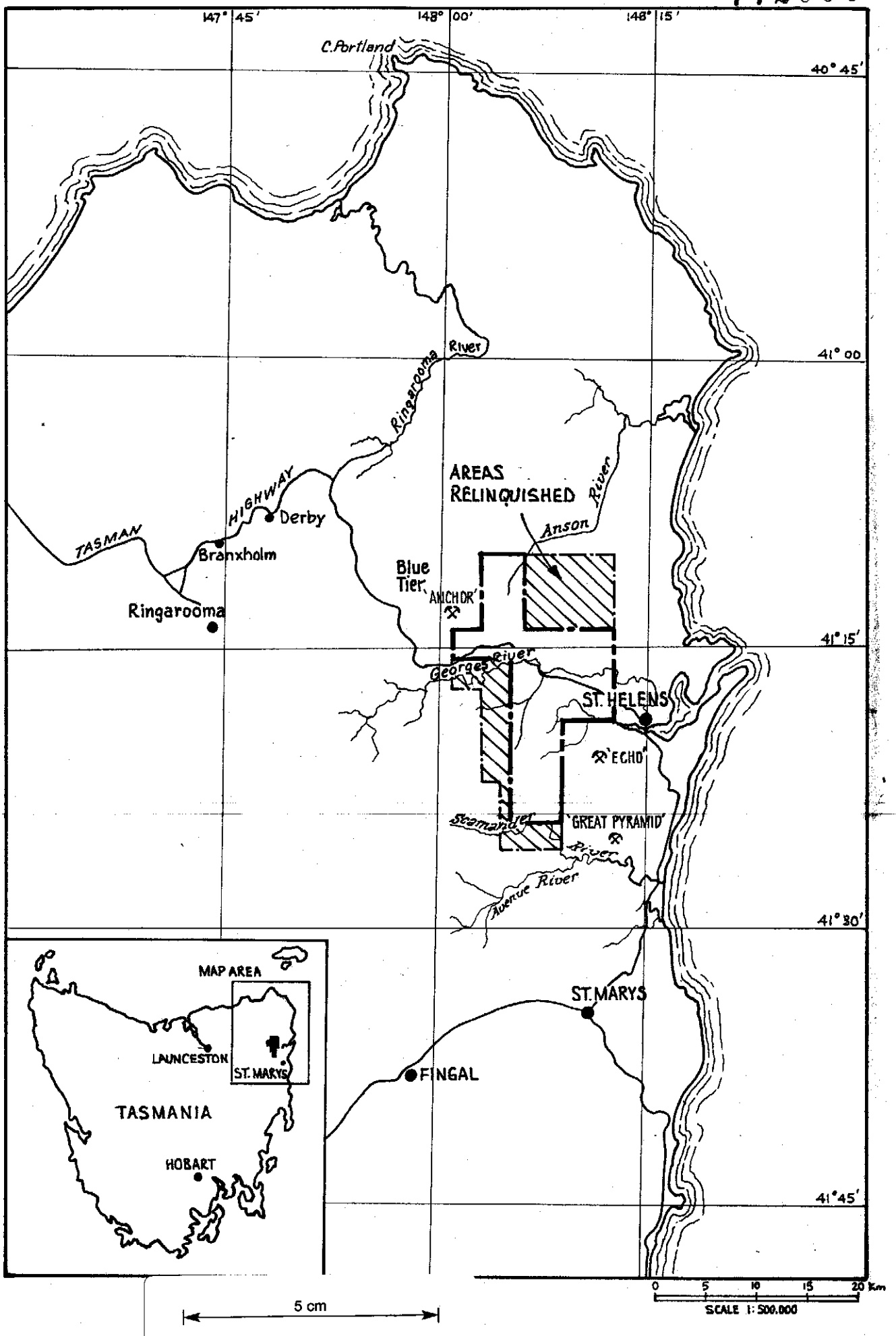

FIG. 1. LOCATION MAP - GEORGES RIVER E.L. 11/78 TAS.

1. INTRODUCTION

Exploration Licence 11/78 (E.L. 11/78) was granted to CSR Limited on 15th September 1978. It originally covered an area of 303 square kilometres immediately west of St. Helens in northeastern Tasmania. The Licence stretched from St. Helens (east) to Pyengana (west) and from Griffiths Marsh (north) to Upper Scamander (south). [Figure 1]

This area was thought to include a spread of tin mineralisation from Tertiary alluvials through to disseminated and lode tin possibilities in both country rock and mineralising granite.

Since 1978, CSR Limited has been conducting an exploration programme to evaluate E.L. 11/78. Results of the general exploration over the Licence in the 1978/79, 1979/80 and 1981 programmes were documented by Hall (1979), Williams (1980) and Ellis (1981a), respectively. The results of the 1981 programme enabled the licence to be reduced to an area of 176 square kilometres. A summary of the work completed in the two relinquished sub areas of the original licence has been reported (Ellis, 1981b).

Results of the regional exploration indicated several localised anomalies which required separate investigation. The Ferntree Hill anomaly is one such area. Past work on this area is summarised in this report.

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2. SUMMARY

Soil sampling along ridges around Ferntree Hill showed anomalous tin values in an area of 1 x 1.8 km (open to the south). Small coincident slightly anomalous bismuth, copper, lead, zinc and tungsten occurred within the tin anomalous area.

Ten percussion holes were drilled in the centre of the anomaly. Preliminary results show a greisen less than 30 m thick. The lateral extent of the greisen zone appears to be much smaller than the tin anomalous area. This may indicate that tin occurs in the surrounding granite as well as the greisen zone. Chemical and petrological investigations of the drill samples will continue.

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3. LOCATION AND ACCESS

3.1 E.L. 11/78

The eastern boundary of E.L. 11/78 is 3 km west of St. Helens along the Tasman Highway (Figure 1) in the northeastern portion of Tasmania. This sealed highway bisects the Licence into two roughly equal-sized areas. All other roads within the area are variable graded dirt/gravel roads. These minor public, forestry and farm roads provide good access for vehicles to all parts of the Licence.

Apart from the small areas of privately owned grazing land most of the tenement is covered by open eucalypt forests with local dense undergrowth. Along steeper southward facing slopes of the George River there are small patches of thick rainforest. Small pine plantations have been developed by the Forestry Commission in the northern part of the Licence.

E.L. 11/78 covers portions of three main drainage basins; the headwaters of the northeasterly draining Ansons River system (north); the lower reaches of the easterly draining George River system (Central); and the headwaters of the southeasterly draining Scamander River system (south). The Ferntree Hill area is on the divide between these latter two drainage systems.

3.2 Ferntree Hill Anomalous Area

The Ferntree Hill area is in the southern half of E.L. 11/78 approximately 16 km southeast of St. Helens (DRG No. K554-6). Access to the area is by a minor gravel road (known as Hogans Road) from St. Helens to Fingal. Ferntree Hill is the divide between the northward draining Derwent Creek and the southward draining Carters Creek. Several minor forestry fire trails traverse the Ferntree Hill area.

Open eucalypt forest with very little undergrowth covers the entire Ferntree Hill area. Minor thick undergrowth type regrowth occurs in the upper reaches of Derwent and Carters Creeks. These areas have previously been worked for alluvial tin.

4. EXPLORATION CONCEPTS

When the application for E.L. 11/78 was made it was conceived that the area may contain areas of alluvial, eluvial and primary tin, molybdenum and tungsten vein stockworks, copper, silver, lead and zinc sulphide type deposits and/or gold and silver rich lodes and veins.

Most tin mining within E.L. 11/78 has been for alluvial cassiterite in the youthful drainage of the George River and Golden Fleece Rivulet drainage systems. The tin occurs in thin low grade quartz sands of probable Quaternary age.

Minor eluvial mining of cassiterite has occurred in small areas of skeletal soils developed on the Mt. Pierson Granite in the Saxelby Creek area. These were mined with, and recorded as, alluvial deposits.

Few sources of primary tin have been documented as occurring within E.L. 11/78. However several areas of alluvial tin workings suggest further primary sources within the Licence. Two types of primary cassiterite occur in the district - quartz cassiterite vein stockworks such as the Great Pyramid area of veins in Mathinna Beds; and greisen zones (cupolas) at the crown of late stage granitic intrusions. This latter style of primary cassiterite deposit is the main target in the Licence.

Small veins of molybdenum and tungsten occur in the district. There is limited potential for this style of mineralisation within E.L. 11/78.

Minor deposits of copper, silver, lead and zinc have been exploited within the Licence, but little potential exists for economic discovery.

Minor gold vein workings within the Licence are not considered economically significant.

5. PAST EXPLORATION

5.1 Northeastern Tasmania

The Mangana-Mathinna gold area was discovered in 1852 and worked until around 1920. Declining gold mining activity was followed by the discovery of alluvial tin deposits in many northeastern Tasmanian rivers. The workings of these alluvial tin deposits led to hard rock tin discoveries in the Blue Tier area. The alluvial and hard rock tin shows were worked until 1951 although only on a small scale after 1935.

During the tin mining era the Scamander Mineral District (copper, silver, tungsten and tin) was investigated and small scale workings developed.

Exploration paralleled the mining activity. Numerous individuals prospected the area until the early 1900's. Between 1910 and 1956 only the Tasmanian Department of Mines was active in the area. In 1956 they were joined by larger exploration companies such as Rio Tinto Zinc Corporation, Electrolytic Zinc Company, BHP Company Pty. Ltd., Austminex, Utah Development Company, Aberfoyle Development Company and Texins Development Pty. Ltd. (see Mortimers 1974 for details).

At present the area adjacent to E.L. 11/78 is being actively explored by BHP Co. Pty. Ltd., Union Corporation and Renison Ltd.

5.2 E.L. 11/78

After CSR Limited obtained E.L. 11/78 on 15th September 1978, all previous exploration results were examined. Orientation surveys around the Priory Mine and the Mathinna Beds-hosted tin, tungsten and molybdenum mineralisation around Wolfram Creek were undertaken (Hall, 1979).

The old alluvial workings of the area were evaluated. Hall (1979) considered that the area known as Thureau's Lead between Boggy Creek workings and Derwent Creek had economic potential. Although Williams (1980) downgraded the potential of this area it is believed that there is still scope for alluvial tin deposit discovery (Ellis, 1981).

Areas of Mathinna Beds were further investigated. Anomalies located by Geophoto in the Haley's Creek area were confirmed and enlarged. Structural anomalies in the Hogan's Track area were downgraded when no geochemical anomalies were located. Mathinna Beds roof pendants at Goshen and Pyengana were likewise downgraded when only minor geochemical anomalies were located.

Areas of the so-called "Lottah Sheets" were investigated. The area at Honson's Hill was found to have many hard rock workings and anomalous geochemistry. The "Lottah Sheet" concept now appears to be invalid. Rather a series of late stage tin-bearing granitic intrusions into the earlier batholiths seems more realistic. This suggests new areas of hard rock tin deposit potential.

A study of the areas adjacent to streams previously worked for alluvial tin located several zones with anomalous soil and rock chip geochemistry (Hall, 1979). At several locations quartz/tourmaline and quartz/aplite veining, and greisens were located. One of these greisens was at Ferntree Hill.

5.3 Ferntree Hill Area

During 1979 part of the exploration programme included geological mapping and sampling (rock and stream sediment traverses adjacent to areas which had been worked for alluvial tin. One such traverse located a greisenous zone on Ferntree Hill.

Williams (1980) sampled the area of this greisen. Rock-chip and soil samples were taken for analysis. During the soil sampling programme auger samples of the A2 horizon were taken as well as bulk A2 soil samples. The latter were panned to a concentrate. All samples were analysed and most samples showing anomalous tin. The soil samples showed more reliable and repeatable values than panned concentrates. Results of the soil and rock-chip sample analyses are shown in Appendix I. Sample locations are shown on DRG No. K554-9.

6. CURRENT FERNTREE HILL EXPLORATION

Williams (1980) reported anomalous tin values (up to 370 ppm Sn) in soil and rock-chip samples from Ferntree Hill. A small (300 x 600 m) soil sampling programme showed anomalous A2 soil horizon tin values (Ellis, 1981). However, most of the anomalous values were from sample sites downslope of the original highly anomalous sample. It was thought that anomalies reflected either downslope movement of tin or the presence of in situ tin at the sample point.

A second soil sampling programme was initiated. This extension of the original grid was confined to grid lines along ridge tops to the east, west, north and south of the original grid. Except to the north (2 lines), single lines in each of these directions (2 to the north) were sampled at 50 m intervals. Lines to the north, south and west were extended for a distance of approximately 1 km. The line to the east was only extended 300 m when a vastly different granite was located.

In the area of the anomalous tin values only limited outcrops of mostly weathered, apparently greisenised granite were present, but to the east massive outcrops consisted of large hard coarse-grained granitic boulders. This massive granite extends along most of the eastern portion of the southern part of E.L. 11/78. Samples of this granite have been taken for thin section studies.

All hand auger soil samples from the grid line extensions were from the A2/C soil horizons interface or below. Approximately 1.5 kilogram samples were taken. This material was dried and screened at 20 and 80 mesh. The -80 mesh fraction was analysed for copper, lead, zinc, bismuth and molybdenum using A.A.S. methods and the -20 +80 mesh fraction was analysed for tin and tungsten by XRF methods.

Sample analyses outlined a zone of anomalous tin in soil and a programme of percussion drilling involving 10 holes to depths up to 40 m was proposed. These holes were designed

to test the in situ grades and thicknesses of tin mineralisation in the granites underlying the area of anomalous soil geochemistry.

Of the ten holes, ~~six~~ four were sited at 100 m intervals along AMG line 5421000 m north across the central highly anomalous zone and two, three holes on each of the lines 100 m to the north and south of the central traverse.

It was envisaged that cyclone collected drill cuttings would be taken at 1 m intervals and samples split to obtain a 1 kg (approximate) sub-sample for chemical analyses. The remainder of the sample was to be screened using a 4 mesh screen to obtain rock-chips for binocular microscope examination and/or thin section.

A Warman 1000 drilling rig with a down-hole hammer and 290 p.s.i. compressor operated by the Tasmanian Department of Mines was chosen for the drilling. The ten holes were drilled in late February/early March 1982. At the time of writing the sample analyses and preparation had not been completed.

7. RESULTS

7.1 Soil Sampling

Eighty-three soil samples were collected from ridge top grid-lines to the east, west, north and south of the original anomalous Ferntree Hill samples. These A2/C soil horizon interface samples were analysed for Cu, Pb, Zn, Bi, W, Sn and Mo (Appendix II).

No anomalous molybdenum values were obtained. Several slightly anomalous bismuth values were recorded in samples from the southern grid extension. Samples A119864 to A119867 (4 samples) and A119874 to A119878 (5 samples) had anomalous bismuth values peaking at 28 and 12 ppm respectively. These bismuth anomalies were coincident minor tungsten (maximum values of 35 and 40 ppm respectively), copper (10 and 26 ppm), lead (12 and 40 ppm) and zinc (28 and 60 ppm) anomalies.

Apart from these two slightly anomalous areas, tungsten, copper, lead and zinc showed only isolated low "spot" anomalies.

Anomalous tin was widespread (1 x 1.8 km open to the south). However, no anomalous tin values were obtained to the west of sample A119829 or to the east of sample A119885. Also, apart from sample A119907 (44 ppm Sn) adjacent to the Argonaut Road, no anomalous tin values were recorded north of samples A119860 and A119902. All samples from the southern grid extension showed anomalous tin values.

Within the Ferntree Hill anomaly a strong east-west trend coincident with a central saddle was apparent. Tin values up to 330 ppm Sn were recorded along this saddle.

Sample points and tin analyses are shown in DRG No. K554-9.

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7.2 Percussion Drilling

A 10 hole drilling programme was completed in early March 1982. Results showed that the "greisenised" granite was less than 30 m thick or at least the softer greisenised material did not continue to more than 30 m. This was underlain by a much harder fine-grained granite/ adamellite. Below the zone of highest tin anomaly, the "greisen" reaches maximum thickness from where it thins to the north, south and east. Lateral continuity east-west does not exceed 800 m. North-south dimensions were not determined but rapid thinning from the central zone suggests limited continuation of the body along this axis.

Results of chemical analyses and detailed petrology of the drilling samples are awaited.

8. CONCLUSIONS

Anomalous metal values in the soil around Ferntree Hill may reflect a style of greisenisation and mineralisation similar to that at the nearby Anchor Mine. This is a low grade high tonnage tin deposit with reasonably simple metallurgy characteristics.

Chemical analyses and petrological examination of the driling samples should be completed before any decision on further work is made.

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PDE/SS
March 1982

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APPENDIX I

RESULTS OF 1981-82
SOIL AND ROCK CHIP SAMPLES
FROM THE FERNTREE HILL AREA

CSR LIMITED—SAMPLE DATA SHEET

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AREA GEORGE RIVER | PROSPECT NUMBER 603 | DATE SAMPLED 1981/82 | LABORATORY REPORT NO. | ANALYTICAL METHOD Cu, Pb, Zn, Bi, Mo, by AAS - -80# Sn, W by XRF -20+80#

STATE TAS | LOCATION FORTHER HILL | 1:100,000 SHEET GEORGES BAY | SAMPLER PDE | ANALYSES:

NOTATIONS: SAMPLE TYPE – M - Creekmud, S - Soil, SA - Soil Auger, RC - Drill Core, RP - Percussion Chips, R - Rock, Please state element

ADDITIONAL

SAMPLE NUMBER	SAMPLE TYPE	APERTURE SIZE (MICRONS)	CHEMICAL ANALYSES (ppm) Cu	Pb	Zn	Bi	Mo	Sn	W	SUMMARY DESCRIPTION	LOCATION E/W	N/S
A119870	SA		8	6	16	<4	4	48	<10		593100	5420550
871	SA		6	12	12	<4	<4	65	<10		593100	5420500
872	SA		16	14	36	<4	<4	90	35		593100	5420450
873	SA		12	10	34	<4	<4	90	30		593100	5420400
874	SA		26	22	30	12	<4	140	30		593100	5420350
875	SA		16	16	36	8	<4	70	35		593100	5420300
876	SA		12	10	22	4	<4	65	20		593100	5420250
877	SA		20	32	60	12	<4	38	40		593100	5420200
878	SA		10	60	46	4	<4	38	15		593100	5420150
879	SA		16	22	36	<4	<4	30	20		593100	5420100
A119880	SA		12	22	42	<4	<4	40	15		593100	5420050
881	SA		18	36	50	<4	<4	34	<10		593100	5420000
882	SA		6	<4	10	<4	<4	22	<10		593700	5421100
883	SA		6	<4	8	<4	<4	55	<10		593750	5421100
884	SA		2	4	12	<4	<4	16	<10		593800	5421100
885	SA		8	6	6	4	<4	20	<10		593850	5421100
886	SA		6	18	10	<4	<4	10	<10		593900	5421100
887	SA		4	6	6	<4	<4	10	<10		593950	5421100
888	SA		6	<4	4	<4	<4	32	<10		593700	5421150
889	SA		4	<4	6	<4	<4	22	<10		593700	5421200
A119890	SA		2	<4	4	<4	<4	12	<10		593700	5421250
891	SA		4	6	8	<4	<4	30	<10		593700	5421300
892	SA		6	<4	8	<4	<4	32	<10		593700	5421350
893	SA		4	<4	4	<4	<4	145	<10		593700	5421400
894	SA		4	10	8	<4	<4	14	<10		593700	5421450
895	SA		4	<4	8	4	<4	90	<10		593700	5421500
896	SA		4	<4	12	<4	<4	170	<10		593700	5421550
897	SA		2	<4	6	<4	<4	22	<10		593700	5421600
898	SA		<2	8	12	<4	<4	18	<10		593700	5421650
899	SA		4	12	16	<4	<4	20	20		593700	5421700
A119900	SA		4	<4	4	<4	<4	16	<10		593700	5421750
901	SA		4	8	16	<4	<4	14	<10		593700	5421800
902	SA		2	4	8	<4	<4	18	<10		593700	5421850
903	SA		10	8	6	<4	<4	10	<10		593700	5421900
904	SA		12	12	8	<4	<4	10	<10		593700	5421950
905	SA		4	6	6	<4	<4	12	<10		593700	5422000
906	SA		4	10	6	<4	<4	14	15		593700	5422050
A119907	SA		14	6	12	<4	<4	64	<10		593700	5422100

PAGE ____ OF ____

CSR LIMITED—SAMPLE DATA SHEET

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AREA George River
STATE TAS LOCATION Fernitree Hill
PROSPECT NUMBER 603
1:100,000 SHEET Georges Bay
DATE SAMPLED 1981/82
SAMPLER P.D.E
LABORATORY REPORT NO.
ANALYTICAL METHOD Cu, Pb, Zn, Bi, Mo by AAS -80# ANALYSES:
Sn, W by XRF -20+80#

NOTATIONS: SAMPLE TYPE – M - Creekmud, S - Soil, SA - Soil Auger, RC - Drill Core, RP - Percussion Chips, R - Rock
Please state element

ADDITIONAL

SAMPLE NUMBER	SAMPLE TYPE	ASBESTOS FIBRE (SILVER MICRONS)	CHEMICAL ANALYSES (ppm) Cu	Pb	Zn	Bi	Mo	Sn	W	SUMMARY DESCRIPTION	LOCATION E/W	N/S
A1198825	SA		8	2.6	20	<4	<4	2.6	3.0		593000	5421000
826	SA										592950	5421000
827	SA		10	1.0	32	<4	4	4.2	<1.0		592900	5421600
828	SA		20	1.6	22	<4	<4	3.6	<1.0		592850	5421000
829	SA		6	<4	8	<4	<4	20	<1.0		592800	5421000
A1198830	SA		6	4	10	<4	<4	1.0	1.5		592750	5421000
831	SA		16	12	50	<4	<4	8	1.5		592700	5421000
832	SA		4	4	14	<4	<4	1.2	1.5		592650	5421000
833	SA		14	<4	20	<4	4	1.0	<1.0		592600	5421000
834	SA		8	4	8	<4	<4	6	1.5		592550	5421000
835	SA		4	<4	10	<4	<4	6	2.0		592500	5421000
836	SA		8	<4	14	<4	<4	1.0	<1.0		592450	5421000
837	SA		4	8	16	<4	<4	4	<1.0		592400	5421000
838	SA		2	6	8	<4	<4	6	<1.0		592350	5421000
839	SA		6	12	12	<4	<4	1.2	<1.0		592300	5421000
A1198840	SA		4	<4	12	<4	<4	1.2	1.5		592250	5421000
841	SA		6	8	12	<4	<4	8	<1.0		592200	5421000
842	SA		4	<4	8	<4	<4	4	<1.0		592150	5421000
843	SA		10	<4	12	<4	<4	8	1.5		592100	5421000
844	SA		6	4	10	<4	<4	3.2	2.0		592850	5421050
845	SA		4	<4	4	<4	<4	4.2	<1.0		592850	5421100
846	SA		16	<4	6	<4	<4	2.8	<1.0		592850	5421150
847	SA		10	<4	10	<4	4	3.0	1.5		592850	5421200
848	SA		8	8	10	<4	<4	4.0	<1.0		592850	5421250
849	SA		4	4	6	<4	<4	9.5	1.5		592850	5421300
A1198850	SA		6	<4	4	<4	4	14.0	<1.0		592850	5421350
851	SA		6	<4	4	<4	<4	5.5	1.5		592850	5421400
852	SA		6	<4	10	<4	<4	16.0	<1.0		592850	5421450
853	SA		4	<4	6	<4	<4	17.5	1.5		592850	5421500
854	SA		22	28	26	<4	<4	7.5	4.0		592850	5421550
855	SA		6	8	6	4	<4	2.0	<1.0		592850	5421600
856	SA		4	1.0	2	4	<4	4.4	<1.0		592850	5421650
857	SA		6	1.0	6	<4	6	2.4	<1.0		592850	5421700
858	SA		4	8	6	<4	<4	2.0	<1.0		592850	5421750
859	SA		6	8	8	<4	<4	3.4	<1.0		592850	5421800
A1198860	SA		4	1.5	18	4	<4	1.8	<1.0		592850	5421850
861	SA		4	<4	8	4	<4	1.0	<1.0		592850	5421900
862	SA		1.0	<4	12	<4	4	4.6	<1.0		593100	5420950
863	SA		18	12	14	<4	4	5.5	1.5		593100	5420400
864	SA		1.0	6	28	8	<4	9.0	3.5		593100	5420850
865	SA		8	4	22	2	8	3.2	3.0		593100	5420800
866	SA		8	6	10	0	<4	1.4	1.5		593100	5420750
867	SA		6	4	6	6	<4	3.2	2.0		593100	5420700
868	SA		8	<4	10	0	<4	6.0	<1.0		593100	5420650
A1198869	SA		8	6	6	<4	<4	7.0	1.5		593100	5420600

PAGE _____ OF _____

APPENDIX II

RESULTS OF 1981-82

SOIL SAMPLES

FROM THE FERNTREE HILL AREA

SAMPLE NUMBER	SAMPLE TYPE	Sn (ppm)	CO-ORDINATES EAST	NORTH
1	A2 Soil -20 Mesh	75	593460	5420900
2	"	40	593440	5420900
3	"	60	593420	5420900
4	"	70	543400	5420900
5	"	35	593380	5420900
6	"	30	593360	5420900
7	"	70	593340	5420900
8	"	10	593320	5420900
9	"	65	593300	5420900
10	"	35	593280	5420400
11	"	95	593260	5420400
12	"	170	593250	5420400
13	"	130	593240	5420400
14	"	55	593230	5420400
15	"	90	593220	5420400
16	"	120	593200	5420400
17	"	120	593180	5420400
18	"	130	593160	5420400
19	"	55	593140	5420400
20	"	70	593120	5420400
21	"	55	593100	5420400
22	"	110	593080	5420400
23	"	50	593060	5420400
24	"	70	593040	5420400
25	"	55	593020	5420400
26	"	75	593000	5420400
27	"	95	592980	5420400
28	"	30	593640	5421100
29	"	35	593620	5421100
30	"	50	593600	5421100
31	"	25	593580	5421100
32	"	25	593560	5421100
33	"	35	593540	5421100
34	"	20	593520	5421100
35	"	40	593500	5421100

SAMPLE NUMBER	SAMPLE TYPE	Sn (ppm)	CO-ORDINATES EAST	NORTH
36	A2 Soil -20 Mesh	110	593480	5421100
37	" "	30	593460	5421100
38	" "	190	593440	5421100
39	" "	80	593420	5421100
40	" "	60	593400	5421100
41	"	45	593380	5421100
42	"	55	593360	5421100
43	"	55	593340	5421100
44	"	50	593320	5421100
45	"	130	593300	5421100
46	"	330	593290	5431100
47	"	190	543280	5421100
48	"	250	593260	5421100
49	"	65	593240	5421100
50	"	55	593220	5421100
51	"	150	593200	5421100
52	"	85	593180	5421100
53	"	45	593160	5421100
54	"	70	593140	5421100
55	"	80	593120	5421100
56	"	45	593100	5421100
57	"	85	593080	5421100
58	"	35	593060	5421100
59	"	33	593040	5421100
60	"	140	593020	5421100
61	"	130	593000	5421100
62	"	210	592980	5421100

These samples taken by P.M. Macnamara

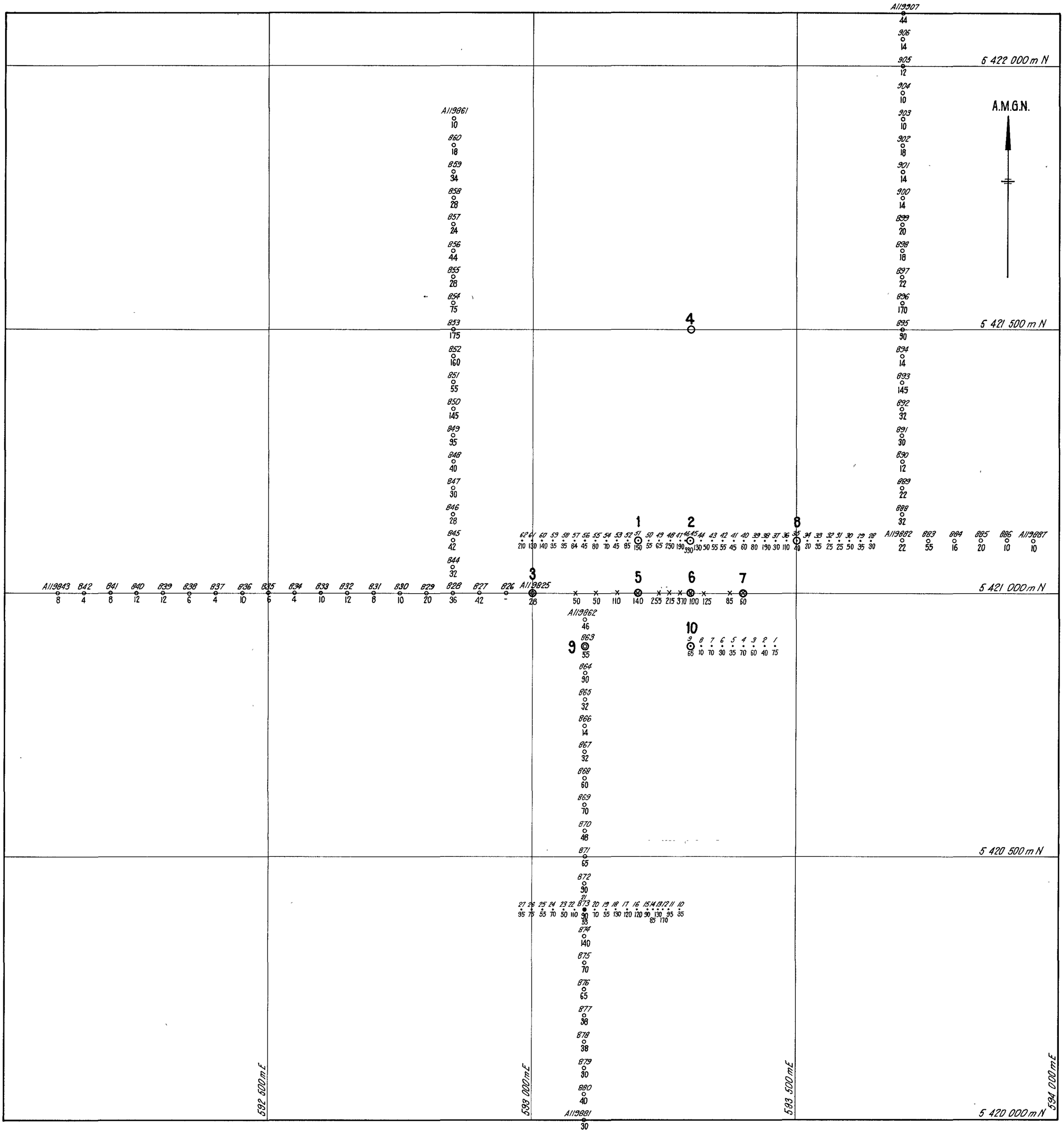
SAMPLE NUMBER	SAMPLE TYPE	ANALYSES (ppm)							CO-ORDINATES
		Cu	Pb	Zn	Ag	Bi	Sn	W	
A80531	Rock	2	15	30	2	30	5	<10	Granite from sluiced area 200 m north of line 5421000 mN in Derwent Creek.
A80532	Rock	5	10	20	1	15	10	<10	As above, but fresh aplite.
A80533	Rock	2	10	20	1	15	70	10	As above, but fresh aplite.
A80534	Rock	2	10	25	1	25	100	<10	As above, aplite with greisenous micas.
.A80535	Rock	2	15	20	1	15	15	10	As above, rotten granite.
A80536	Rock	2	15	25	1	20	20	10	As above, weathered greisenous granite.
A80537	Rock	2	10	25	1	20	30	10	As above, weathered greisenous granite.
A80538	Rock	2	15	25	<1	25	35	10	As above, weathered greisenous granite.
A80539	Rock	2	10	20	<1	15	25	<10	As above, weathered greisenous granite.
A80540	Rock	2	15	15	1	30	65	10	As above, weathered greisenous granite.
A80541	Rock	5	15	30	<1	25	185	<10	As above, weathered greisenous granite.
A80542	Rock2	2	10	10	<1	15	30	<10	As above, weakly oxidised biotite granite.
A80543	Rock	2	10	15	1	15	35	<10	As above, greisenous granite with tourmaline.
A80544	Rock	2	10	15	1	25	20	<10	As above, greisenous granite with tourmaline.
A80545	Rock	2	10	10	<1	20	35	<10	As above, greisenous granite with tourmaline.
A80546	Rock	2	10	30	<1	15	265	<10	As above, tourmaline vein.
A80547	Rock	20	15	80	1	35	415	20	Greisenous granite from sluiced area 300 m south at line 542100 mN in Carters Creek
A80548	Rock	15	15	75	1	40	315	10	As above, greisenous granite.
A80549	Rock	10	10	80	1	35	610	20	As above, greisenous granite.
A80550	Rock	5	15	55	1	30	195	<10	As above, 20 m south, greisenous granite.
A80551	Rock	5	15	70	1	35	200	10	As above, greisenous granite.
A80552	Rock	2	15	45	1	20	245	<10	As above, greisenous granite.
A80553	Rock								Same piece as A80522
A80554	Rock	5	15	50	1	20	350	10	Same location as A80550, greisenous granite.
A80555	Rock	5	15	70	<1	20	55	10	Same location as A80550, aplite.
A80556	Rock								Same piece as A80555
A80557	Rock	2	15	20	1	25	730	<10	Same location as A80550, greisenous granite.
A80558	Rock	5	20	50	1	30	370	20	Same location as A80550, greisenous granite.
A80559	Rock	2	15	40	1	25	365	20	Same location as A80558

SAMPLE NUMBER	SAMPLE TYPE	ANALYSES (ppm)								PANNED SAMPLE WGHT (gm)	ORIGINAL WEIGHT (kg)	CORRECTED Sn (ppm)	CO-ORDINATES	
		Cu	Pb	Zn	Ag	Bi	Sn	W	Mo					
A80746	Heavy Mineral A2 Soil	10	10	5	<1	-	2.21%	40	15	40.44	12	74.47	593280E	5421000N
A80747	"	10	10	15	<1	-	0.25%	<10	20	23.0	12	4.79	593320E	5421000N
A80748	"	5	10	5	<1	-	0.36%	<10	20	68.49	12	20.55	593240E	5421000N
A80749	"	5	10	5	<1	-	0.44%	<10	20	40.37	12	14.80	593200E	5421000N
A80750	"	2	10	5	<1	-	0.32%	<10	20	50.07	12	13.35	593160E	5421000N
A80761	"	2	10	10	<1	-	0.15%	<10	20	37.41	12	4.67	593120E	5421000N
A80762	"	10	10	15	1	-	0.13%	<10	20	25.42	12	2.75	593080E	5421000N
A80763	"	10	10	10	<1	-	0.11%	<10	15	48.55	12	4.45	593040E	5421000N
A80764	"	5	10	10	1	-	865	<10	10	52.22	12	3.76	593400E	5421000N
A80765	"	5	10	5	<1	-	790	<10	20	65.52	12	4.12	593360E	5421000N
A80768	HM C Soil	10	10	5	1	-	0.8%	<10	15	44.73	8	48.64	593280E	5421000N
A80771	" A2 Soil	10	10	5	<1	-	1.37%	10	20	72.50	12	82.77	593280E	5421000N
A80772	" "	10	5	5	<1	-	0.55%	<10	20	54.74	12	25.09	593240E	5421000N
A80773	A2 Soil	10	15	10	1	-	255	<10	10				593240E	5421000N
A80774	C Soil	5	15	15	1	-	195	<10	5				593240E	5421000N
A80775	A2 Soil	10	10	20	<1	-	140	<10	2				593200E	5421000N
A80776	C Soil	5	15	10	<1	-	135	<10	10				593200E	5421000N
A80777	A2 Soil	5	10	5	<1	-	110	<10	10				593160E	5421000N
A80778	C Soil	5	10	10	<1	-	100	<10	10				593160E	5421000N
A80779	A2 Soil	5	10	5	<1	-	50	<10	10				593120E	5421000N
A80780	C Soil	5	10	5	<1	-	45	<10	10				593120E	5421000N
A80781	A2 Soil	5	15	5	<1	-	50	<10	10				593080E	5421000N
A80782	C Soil	10	20	10	<1	-	30	<10	10				593080E	5421000N
A80783	A2 Soil	5	10	5	1	-	370	<10	10				593280E	5421000N
A80784	C Soil	10	10	10	1	-	255	<10	10				593280E	5421000N
A80785	A2 Soil	5	10	5	<1	-	125	<10	10				593320E	5421000N
A80786	C Soil	5	10	5	<1	-	110	<10	5				593320E	5421000N
A80787	A2 Soil	10	10	5	<1	-	85	<10	10				593360E	5421000N
A80788	C Soil	5	15	5	1	-	55	<10	10				593360E	5421000N
A80789	A2 Soil	5	10	10	<1	-	60	<10	10				593400E	5421000N
A80790	C Soil	10	15	5	1	-	30	<10	10				593400E	5421000N
A80798	HM A2 Soil	2	10	5	<1	30	0.18%	20	10	40.04	12	6	593320E	5421000N
A80799	"	2	10	5	<1	25	0.26%	30	5	25.53	12	5.53	593360E	5421000N
A80800	"	2	15	10	<1	25	1.03%	60	5	20.63	12	17.70	593200E	5421000N
A80808	A2 Soil	10	10	5	<1	-	100	<10	10				593300E	5421000N
A80809	"	5	10	5	<1	-	215	<10	5				593260E	5421000N
A80811	Heavy Mineral A2 Soil	5	10	10	<1	-	0.51%	30	40	33.76	12	14.35	593160E	5421000N
A80812	"	2	10	5	<1	20	0.55%	30	30	41.63	12	19.08	593300E	5421000N
A80813	"	-	-	-	-	-	-	-	-	-	-	-	593300E	5421000N
A80814	"	2	10	10	<1	20	2.07%	100	35	23.91	12	41.24	593260E	5421000N
A80815	"	-	-	-	-	-	-	-	-	-	-	-	593260E	5421000N

		Mesh Size	Sn (ppm)	W (ppm)	Sample Weight (gm)	Weight Sn (gm)	Percentage Contained Sn	Calculated -20 Mesh Sn (ppm)	
A87165	A2 Soil	+20	30	<10	661.60	0.020	16.36		
		-20 +40	210	<10	82.38	0.0255	20.86		From same sample point as A80783
		-40 +80	570	<10	63.27	0.0360	29.46	455	
		-80 +200	635	<10	45.94	0.0292	23.89		
		-200	150	<10	76.92	0.0115	9.41		
		Total			930.17				
A87165	A2 Soil	-20	5	<10	499.06	0.0015	4.97		
		-20 +40	130	10	62.19	0.0081	26.82		From same sample point as A80808
		-40 +80	150	<10	46.16	0.0090	29.80	141	
		-80 +200	195	<10	38.03	0.0074	24.50		
		-200	85	10	66.81	0.0057	18.87		
		Total							

Above samples obtained by R.E. Williams (1980)

028
CSR LIMITED-MCD
E.L. 11/78 GEORGES RIVER, TAS.
GEOLOGICAL MAP
028
772029
SCALE 1 : 25,000
DRAWN G.C.H. / P.R. / P.D.E.
DATE Nov. '79
REVISED Sept. '81
DRG. No. K554-6
82-1765
Note :- Revised geology based on Mines Dept. mapping by M.P. Mc.Clenaghan & P.R. Williams (1981/22)
REFERENCE
QUATERNARY-TERTIARY Q-T Alluvium
TERTIARY Tb Basalt
JURASSIC Jdl Dolerite
PERMIAN P Fluvioglacial sediments
DEVONIAN
DGdl Altered dolerite
Dbage Fine to medium grained biotite and white mica bearing alkali feldspar granite
Dbagm Fine to medium grained alkali feldspar granite, large pale brown mica
Dbape Porphyritic to equigranular fine grained greisenised adamellite with small feldspar phenocrysts (<15mm) and larger quartz grains in porphyritic areas. Muscovite more than biotite. Lottah Block.
⑥ Dbapc Medium to coarse grained biotite (minor muscovite) adamellite with minor phenocrysts (average 25mm) Poimena Pluton
Dbapm Medium grained biotite (minor muscovite) adamellite with K-feldspar (average 25mm), plagioclase and quartz phenocrysts
Dbaec Medium to coarse equigranular biotite (minor muscovite) adamellite
DbaF Equigranular fine grained biotite / muscovite adamellite
Dbapf Fine grained biotite / muscovite adamellite with small plagioclase (<15mm) and quartz phenocrysts
⑦ Dbasc Coarse to very coarse biotite adamellite with abundant K-feldspar phenocrysts (>30mm) or with seriate texture. Mt. Pierson Pluton.
⑮ Dbg Medium to coarse biotite hornblende granodiorite. Garden Pluton
Dbb Medium to coarse grained biotite granodiorite
Dba Aplite
⑤ Constable Creek Pluton
⑫ Scamander Tier Dyke
⑬ Granodiorite - unnamed
⑭ St. Helens Pluton
SILURO-DEVONIAN (M) Sdsm Mathinna Beds
5 cm
Main Palaeochannel
Tributary Palaeochannel
Mine or prospect
Au Gold
Sn Tin
S Base Metal Sulphides
W Wolfram
Mo Molybdenum
Geological boundary, accurate
Geological boundary, approx.
Unconformity
Trend line
Strike and dip of bedding
Strike and dip of jointing
Fault
Anticline
Watercourse
Road, track
House
E.L. boundary
Petrographic sample loc'n and number
Radiometric anomaly
Geochemical anomaly (Geoprobe)
Mines Dept. cr. sections
585 000 mE
588 000 mE
590 000 mE
595 000 mE
600 000 mE
601 000 mE
5 441 000 mN
5 440 000 mN
5 435 000 mN
5 434 000 mN
5 430 000 mN
5 428 000 mN
5 425 000 mN
5 420 000 mN
5 419 000 mN
5 415 000 mN
5 412 000 mN
MT. MICHEAL
SUN FLAT
MOON (Sn)
POIMENA
LOTTAH (Sn)
RANSOM
LOTTAH
ANCHOR (Sn)
VICTORY (Sn)
LOTTAH ROAD
NEW ENGLAND ROAD
MURDOCHS ROAD
PLATTS LOOKOUT
MURDOCHS HILL
CLIFFORDS ROAD
MOTHER LOGANS ROAD
ANSONS BAY ROAD
RATTRAYS MARSH
THE DOCTORS PEAK
MT. PEARSON
TERRYS HILL ROAD
JOHNSONS HILL
GOULDS COUNTRY
SWEETS HILL
ANCHOR ROAD
146 × granite contact
TASMAN HIGHWAY
GENTLE ANNIE RIDGE
PRIORY
GOSHEN
PYENGANA
GEORGE RIVER
MOUNT NISBET
Terryvale Marsh
TERRYVALE ROAD
Moonlight Marsh
138 × siliceous rock
COPLESTONES HILL
(BOGGY CREEK) MINE WORKINGS
(CLIO HILL)
MINE WORKINGS
MINE WORKINGS (ARGONAUT)
(RUBY CREEK)
ARGONAUT ROAD
RILEYS HILL
ST. HELENS
Mud Flats
MEDEAS COVE ROAD
POWERS ROAD
POWERS RIDGE
STROCHNETTERS HILL
GIRDYS HILL
RAYNERS HILL
MOUNT ECHO
SILVER ECHO (S)
Fine grained 115 × granite
REFER DRG. No. K554-9 (Sample loc'n plan)
FERNTREE HILL
Steeles Marsh
HOGANS ROAD
Carters Marsh
TRANSIT FLAT
RISKY RIDGE
UPPER SCAMANDER PROSPECT
× granite float
109 × dolerite/qtz
DD2
110 quartz/mica
DOUBLE EVENT (Au)
TRAFALGAR (Au)
GOLDEN RIDGE
BRILLIANT (Au)
GOLDEN RIDGE (Au)
QUEEN OF THE EARTH (Au)
114 × Mathinna/granite contact
111 × 95 granite
BADEN POWELL (W-Mo)
PRICE (W-Mo)
COPPER SHOW CREEK PROSPECT
LUTWYCHE (W-Mo)
(W-Mo) CARSON DE BEERS
PINNACLES (Sn)



772030

5 cm

REFERENCE

x 215	Original samples (Williams 1980) Sn value p.p.m
27 • 95	Macnamara samples (Ellis 1981a) Sn value (-20# faction) p.p.m
A119881 ○ 30	1981 soil samples Sn value (-20,-80# faction) p.p.m
6 ○	Percussion drill holes

CSR LIMITED-MD

E.L. 11/78 GEORGES RIVER TAS.

FERNTREE HILL-SOIL GEOCHEMISTRY

029

SCALE	1 5000
DRAWN	P.D.E./PR
DATE	May. '82
REVISED	

DRG No **K554-9**

82-1765