

000

280001

Prospect 606

CSR LIMITED

ALUMINIUM, MINERALS & CHEMICALS DIVISION

EXPLORATION GROUP

HISTORICAL REVIEW

MT. MAURICE, E.L. 43/82

NORTHEAST TASMANIA

EMR 105/83

INDEXED

J of M	A.O.	C.G.	E.O.	D.S.M.
				Registrar
D. DIR.	27 OCT 1984			E & IL
	DEPT. OF MINES			
REF. No.	10 911/84			

OPEN FILE

MICROFILMED

HOBART
SEPTEMBER 1983

P.D. ELLIS

COPY NO.

DISTRIBUTION

	<u>Copy</u>
LIBRARY	Original
EXPLORATION MANAGER)	1
SUPERVISING GEOLOGIST - S.E. AUSTRALA)	
P.D. ELLIS	2
ZEEHAN OFFICE	3

CONTENTS

	<u>PAGE NO.</u>
1. INTRODUCTION	1
2. SUMMARY	2
3. LOCATION AND ACCESS	3
4. GEOLOGY	5
5. PAST EXPLORATION	7
5.1 Mining	7
5.2 Exploration	7
5.3 Government Evaluation	13
6. CONCLUSIONS	15
7. RECOMMENDATIONS	16
8. REFERENCES	17

APPENDICES

- I ANALYSES OF SELECTED QUARTZ REEF SAMPLES FROM SPL 82
- II DESCRIPTION OF SELECTED SAMPLES FROM SPL 82
- III STREAM SEDIMENT ANALYSES FROM E.L. 22/70

003

LIST OF ILLUSTRATIONS

<u>FIGURES</u>		<u>FACING PAGE NO.</u>
1	GEOLOGY OF NORTHEAST TASMANIA (1:500,000)	1
2	LOCATION MAP OF E.L. 43/82, MT. MAURICE, TASMANIA (1:100,000)	3
3	LAND OWNERSHIP E.L. 43/82, MT. MAURICE, TASMANIA (1:100,000)	After page 3
4	GEOLOGY OF NORTHERN E.L. 43/82 - MINES DEPARTMENT MAPPING, MT. MAURICE, TASMANIA (1:100,000)	5
5	OCEANIC EXPLORATION CO. GEOLOGY OF THE E.L. 43/82, MT. MAURICE AREA, TASMANIA (1:100,000)	After page 5
6	PAST EXPLORATION PERMITS IN THE MT. MAURICE AREA, TASMANIA (1:100,000)	8
7	PAST STREAM SEDIMENT SAMPLE LOCATIONS, MT. MAURICE AREA, TASMANIA (1:100,000)	11

TABLES

1	LAND OWNERS IN E.L. 43/82 - MT. MAURICE	After page 3
2	STREAM SEDIMENT SAMPLE ANALYSES FROM UNION CORPORATION, E.L. 21/80	After page 13

PLANS

<u>DRG NO.</u>		<u>SCALE</u>
K554-14	PRE E.L. 43/82 STREAM SEDIMENT SAMPLE LOCATIONS, MT. MAURICE, E.L. 43/82, TASMANIA	1:20,000

KEYWORDS

TASMANIA

TIN

COPPER

EXPLORATION

MINERALISATION

E.L. 43/82

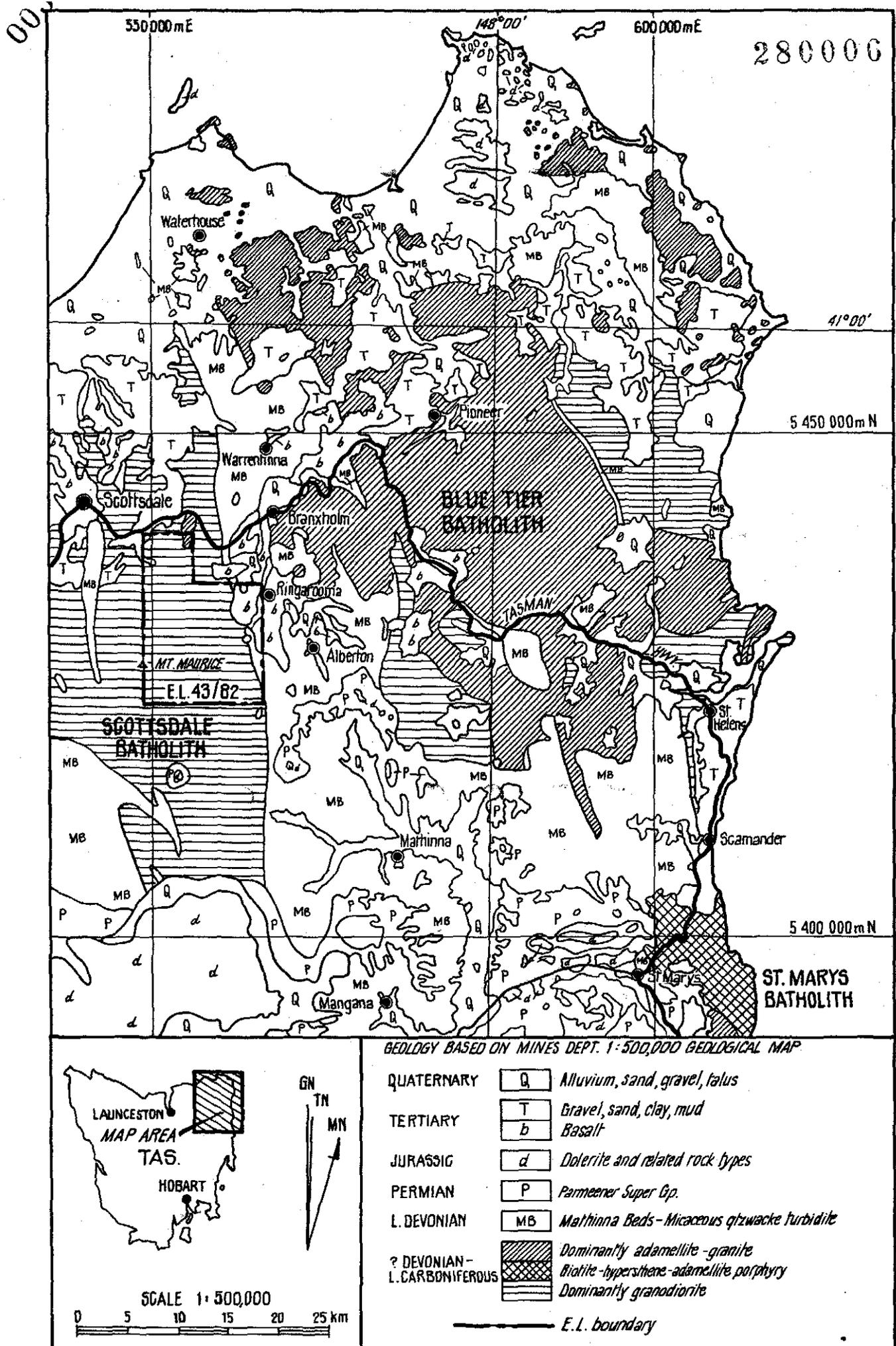


FIG. 1. GEOLOGY OF NORTHEASTERN TASMANIA - E.L.43/82 TAS.

5 cm

006

1. INTRODUCTION

Exploration Licence 43/82 (E.L. 43/82) was pegged on 8th November, 1982 and the application was lodged with the Tasmanian Department of Mines on 11th November, 1982. This Licence application covered an area of 169 km², situated immediately west of Ringarooma in northeastern Tasmania (Figure 1). The area extends west from Ringarooma to Mt. Maurice and south from Tonganah to Ben Ridge Road.

The area is considered to have disseminated and/or lode tin potential within the granite mass. Copper veining is known in one area while copper, tungsten, molybdenum and zinc were indicated in other zones.

Although tin and copper mineralisation has been known in the area since 1876, very little exploration to locate economic deposits has been initiated. This report summarises and compiles all previous data collected from the area.

E.L. 43/82 was granted on 15th August, 1983, initially for a period of 12 months.

2. SUMMARY

Little detailed exploration has occurred within the E.L. 43/82 area. Preliminary drainage sampling has defined several Sn, Cu, Mo, W anomalous zones, one of which was worked by shaft, trench and adit as a Sn/Cu mine for 30 years.

Department of Mines mapping in the north of the area have shown the occurrence of alkali feldspar granite intrusions. These are directly related to the mineralisation at the Anchor Mine in the Blue Tier Batholith.

Past work shows a suitable geological environment (with indications of Sn, Cu, Mo, W) for the formation of a greisen tin deposit. This meets the CSR tin exploration strategy.

Access to the area is easy and thus initial exploration will be \$18,000 for the first year. This will include further detailed drainage sampling (stream sediment, magnetic and panned concentrates) and geological mapping.

006

200000

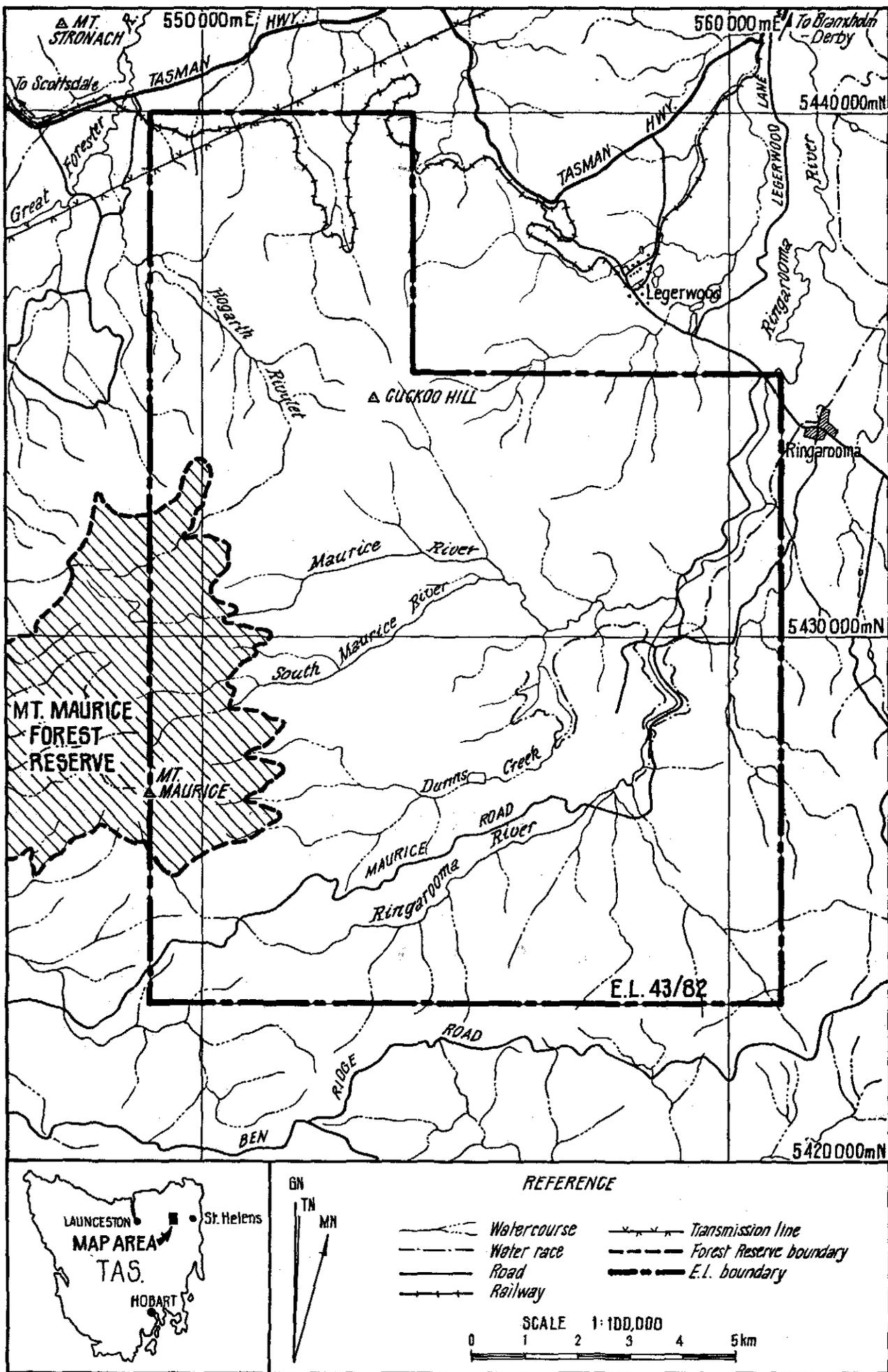
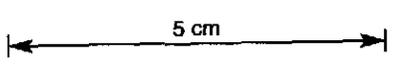


FIG. 2. LOCATION MAP E.L.43/82 MT. MAURICE TAS.



3. LOCATION AND ACCESS

The eastern boundary of E.L. 43/82 cuts the western boundary of the Ringarooma town reserve in the Land District of Dorset in northeast Tasmania (Figure 2). Ringarooma is connected by minor sealed roads to the Tasman Highway which runs just to the north of the Licence. Only variable grade dirt/gravel roads occur within the Licence boundary. This network of minor public, forestry and farm roads and tracks provides reasonable vehicle access to most parts of the Licence. Forestry Commission cut lines provide further walking access to more heavily forested areas.

Approximately 70-75% of E.L. 43/82 is Crown land and/or State forests. This includes a small area of Forest Reserve (Mt. Maurice Forest Reserve) on the western boundary (Figure 3). The rest of the Licence is private property including property purchased by the Forestry Commission. Most of the non-Forestry Commission private land is grazing land along the flood plain flats of the Ringarooma River (and its tributaries). Table 1 shows the private land distribution.

E.L. 43/82 covers large portions of two main drainage basins. The northern part of the Licence contains minor tributaries of the northerly draining Great Forester River system, while most of the remainder contains the headwaters of the northeasterly draining Ringarooma River system. Minor headwater tributaries of the St. Patricks River system drain the southwestern corner of the Licence. These river systems have deeply incised into the granites and metamorphosed sediments of the area forming a hilly to very steep topography. Flat areas occur as high-level plains around Mt. Maurice and as low-level alluvial plains along the Ringarooma River. These flat areas are at elevations of up to 1120 m and down to 240 m, respectively. The area between the plains commonly has elevations of 400 to 600 m.

010

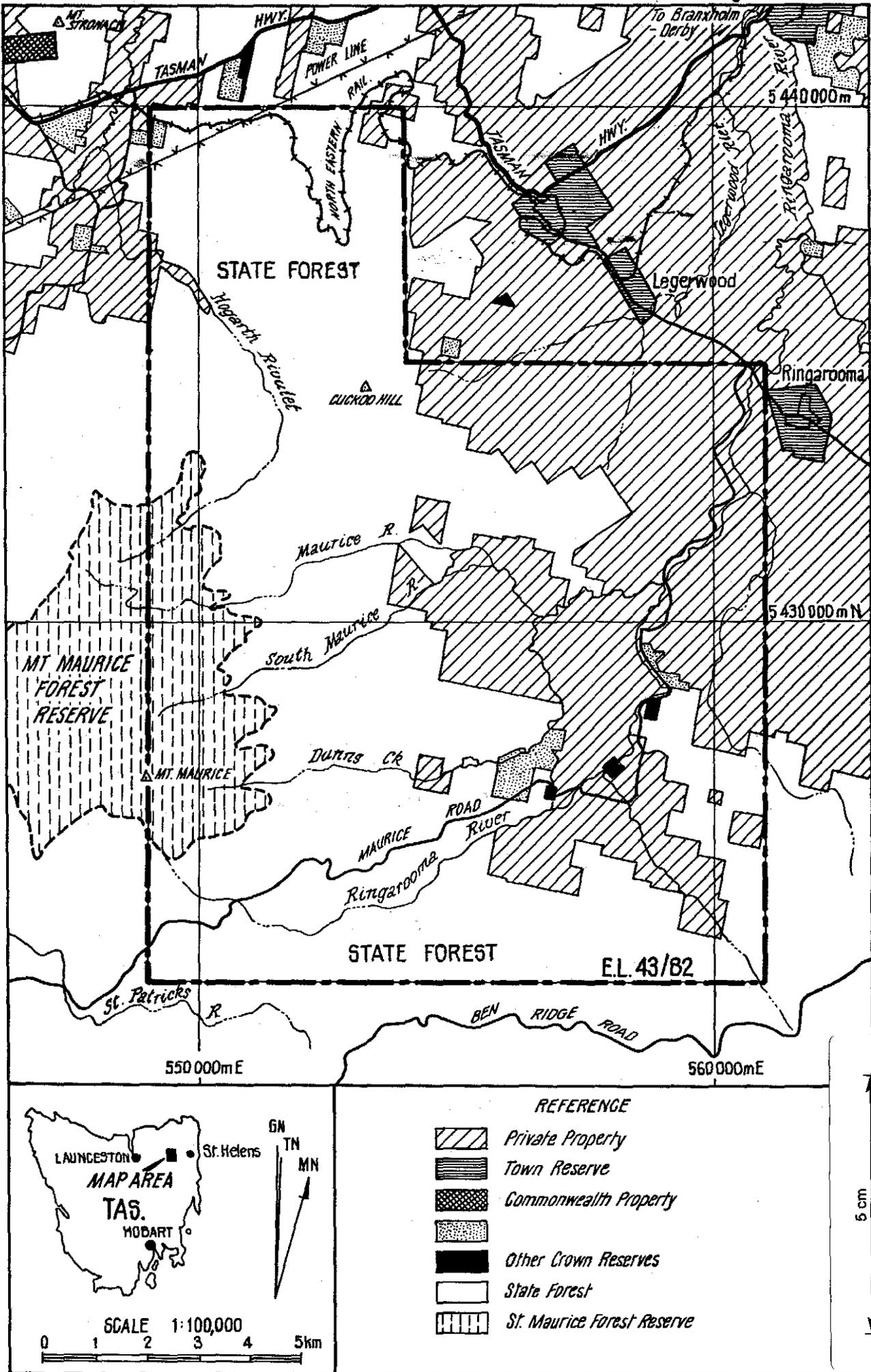


FIG.3. LAND OWNERSHIP E.L.43/82 MT.MAURICE TAS.

TABLE 1
LAND OWNERS IN E.L. 43/82 - MT. MAURICE

LOT NO.	OWNER	ADDRESS	AREA (HA)
353	T.R. McCarthy	Ledgerwood 7254	38.48
354	G.T. & M.R. Hanslow	Ringarooma Road, Legerwood 7254	65.23
355	J.E. Ranson	Ringarooma Road, Legerwood 7254	62.57
356	A.J. Haas	Ringarooma Road, Legerwood 7254	65.02
357	A.G. McKenzie	c/- Mountain View Lodge, Ringarooma 7254	66.19
358	L.S. Ranson	Mountain View Lodge, Ringarooma 7254	40.46
359	I.C. & J. Campbell	Ringarooma 7254	75.12
360	B.J. & G.E. Thompson	Main Road, Ringarooma 7254	22.98
362	A.D. Lohrey	"Daisyburn", Box 32, St. Mary's 7215	56.27
363	J.E. Ranson	Ringarooma 7254	43.24
364	E.G. Ranson	Schramms Road, Ringarooma 7254	21.60
365	Ringaroom Golf Club	Schramms Road, Ringarooma 7254	21.87
366	B.E. Bennett	Schramms Road, Ringarooma 7254	8.941
368	Closer Settlement Board	Leased by T.R. McCarthy, Legerwood 7254	84.86
369	R.B. Ruston	Legerwood 7254	43.34
370	C.O. Nichols	Legerwood 7254	66.81
371	D.L. Nichols	Legerwood 7254	172.5
372	Associated Forest Holdings	459 Collins Street, Melbourne 3000	480.3
374	F.J. Cox	"Fairview", Maurice Road, Ringarooma 7254	40.33
376	F.J. Cox	"Nettlebanks", Maurice Road, Ringarooma 7254	94.84
378	R. & M. Berwick	Maurice Road, Ringarooma 7254	10.48
380	B.D. & H.D. Stingel	"Wattle Grove, Maurice Road, Ringarooma 7254	39.55
381	R.M. Cox	"Northview", Ringarooma 7254	74.49
382	A.V. Rosier	Maurice Road, Ringarooma 7254	52.61
383	J.K. Kidd	Maurice Road, Ringarooma 7254	71.67
384	K.C. Kidd	"Sunny Braes", Maurice Road, Ringarooma 7254	60.75

LOT NO.	OWNER	ADDRESS	AREA (HA)
385	R.M. Cox	"Northview", Ringarooma 7254	88.0
386	N.W. & R.E. Barnett	Maurice Road, Ringarooma 7254	19.04
387	T.C. Amos	Maurice Road, Ringarooma 7254	62.11
388	D. & H. Fulton	Ringarooma 7254	78.62
389	N.W. & F.E. Barnett	Maurice Road, Ringarooma 7254	29.46
402	F.J. Cox	"Northview", Ringarooma 7254	9.077
403	D.J. Fulton	Clarence Point, West Tamar 7250	70.46
404	J.W. Forsyth	Talawa, via Ringarooma 7254	61.63
405	A.M. & E.E. Forsyth	Ringarooma 7254	17.45
406	A.M. & E.E. Forsyth	Ringarooma 7254	108.4
407	G.A. & C. O'Halloran	Ringarooma 7254	60.84
408	Closer Settlement Board	Leased by G.A. O'Halloran, Talawa, via Ringarooma 7254	124.3
409	G.J. Cuff & D.E. Noonan	Ringarooma 7254	47.01
410	D.E. Noonan	Ringarooma 7254	207.8
412	Lands Department	Leased by B.E. Bennett, Ringarooma 7254	22.48
413	Briseis Tin Mine N.L.	49-51 Elizabeth Street, Launceston 7250	6.07
414	Grudleco Pty. Ltd.	c/- D. Gresham, Ringarooma 7254	53.24
415	B.S. & K.M. Bensemann	"Atkinsfield", Scottsdale Road, Bridport 7254	20.23
416	G. Styles	Ringarooma 7254	10.05
417	Alexander Holdings P/L	c/- Floor 7, AMP Building, 86) Collins St., Hobart 7000)	106.49 199.25
419	K. Bennett	Ringarooma 7254	6.075
420	R.H. Nisbet	Ringarooma 7254	80.86
421	D.J. & B.E. Bennett	Ringarooma 7254	81.36
422	Grudleco P/L	"Merrie Dale", West Maurice Road, Ringarooma 7254	239.2
424	Whites Estates P/L	963 Stud Road, Scoresby, Victoria 3179	29.82
426	B.E. Bennett	Ringarooma 7254	40.15
427	T.J. & M.K. Wardlaw	West Maurice Road, Ringarooma 7254	103.7

013

280014

- 3 -

LOT NO.	OWNER	ADDRESS	AREA (HA)
428	Closer Settlement Board	Leased by W.J. Bennett, Ringarooma 7254	87.31
429	R.F. & V.M. Gangell	"Hillydale", Ringarooma 7254	238.8
430	J.R. & S.L. Wade	West Maurice Road, Ringarooma 7254	70.01
431	Closer Settlement Board	Leased by D.H. & M.A. Gresham, West Maurice Rd, Ringarooma 7254	132.8
432	K.J. Kidd	West Maurice Rd, Ringarooma 7254	190.93
433	M.E. Viney	West Maurice Rd, Ringarooma 7254	83.77
434	P.L. & M.C. Atkins	Ringarooma 7254	208
435	P.L. & M.C. Atkins	"Nillsons", Ringarooma 7254	90.08
436	O.H. Hookway	P.O. Box 824, Launceston 7250	11.5
437	R.A. & N.T. Berwick	c/- R.A. Berwick, "Daisy Banks", Ringarooma 7254	40.03
473	T.C. Amos	Ringarooma 7254	80.10
475	R.M. & G.M. Cox	Pinega Road, Ringarooma 7254	90.50
476	H.T. & N.D. Hinds	"Rivene", Ringarooma 7254	89.41
477	E. Singline	Leased by H.T. & N.D. Hinds, Ringarooma 7254	6.637
506	A.J. Triffett	P.O. Box 81, Scottsdale 7254	40.47
507	W.R. & G.J. Ratray	Cuckoo Valley Road, Scottsdale 7254	80.05
508	H.D. & C.C. Davey	"Kinegar", Cuckoo Valley Road, Tonganah 7254	20.235
509	A.L. Davey	Ringarooma 7254	20.28
510	Ringwood P/L	Leased by H.D. Davey, Cuckoo Valley Road, Tonganah 7254	19.45
563	T.C. Johns	P.O. Box 48, Scottsdale 7254	29.67
566	E.D. McIntyre	259 Charles St, Launceston 7250	44.85

Apart from the privately owned, cleared, grazing land, most of the tenement is covered by a mixed eucalypt and myrtle forest with local dense undergrowth. On the higher, steeper slopes the myrtle tends to dominate in a rainforest-type vegetation. On lower slopes a more open, drier eucalypt forest is prevalent. Between Cuckoo Hill and Tonganah, pine forests have been planted by the Forestry Commission.

01.

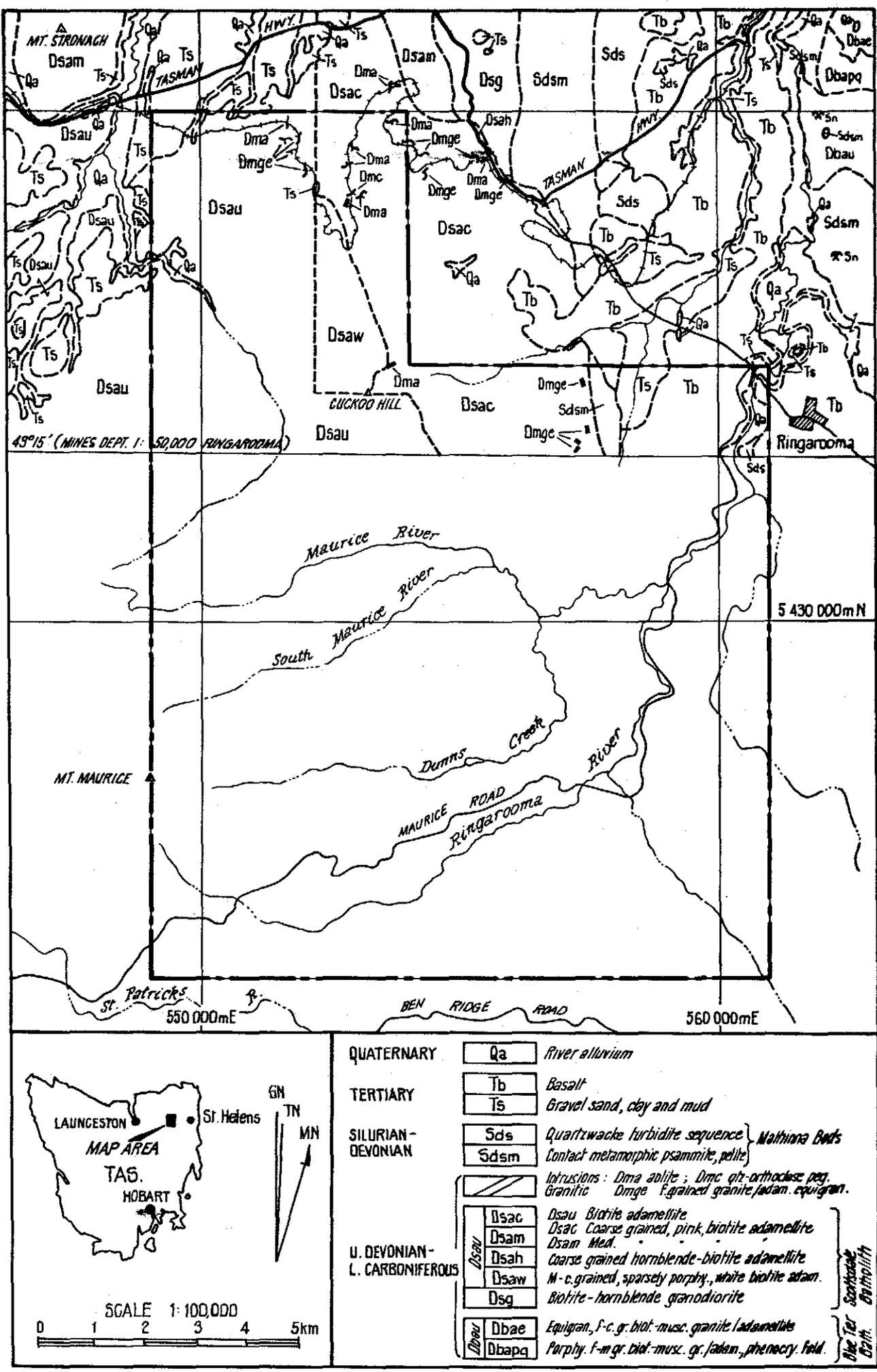


FIG. 4. GEOLOGY OF NORTHERN E.L. 43/82 MT. MAURICE TAS. MINES DEPARTMENT MAPPING

4. GEOLOGY

Very little detailed geological information of the Mt. Maurice area is available. The regional geology of north-east Tasmania (Figure 1) shows the main rocks to be micaceous quartz wacke sediments of the Cambrian to Lower Devonian Mathinna Beds intruded by several major Devonian to Lower Carboniferous granitic batholiths. Minor Upper Carboniferous to Triassic sediments still exist on higher peaks. Jurassic dolerite and Tertiary basalt form isolated outcrops while Tertiary to Recent gravels (some tin-bearing) occur in some river valleys and in coastal areas.

Within E.L. 43/82 the main rocks are the adamellites of the Scottsdale Batholith. In the portion of the Licence mapped in detail by the Tasmanian Department of Mines (Figure 4) these have been classed as coarse-grained biotite adamellites with zones of medium to coarse-grained, sparsely porphyritic, white biotite adamellites. These are intruded by dykes and veins of fine-grained equigranular granite/adamellites, quartz-orthoclase pegmatites and aplites.

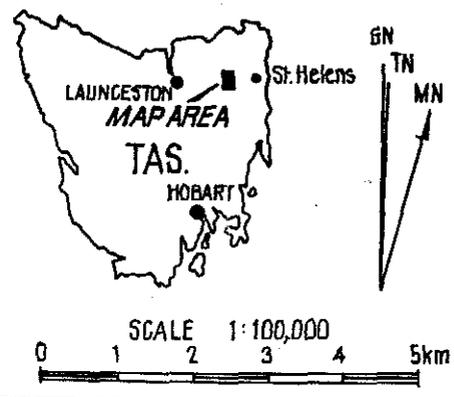
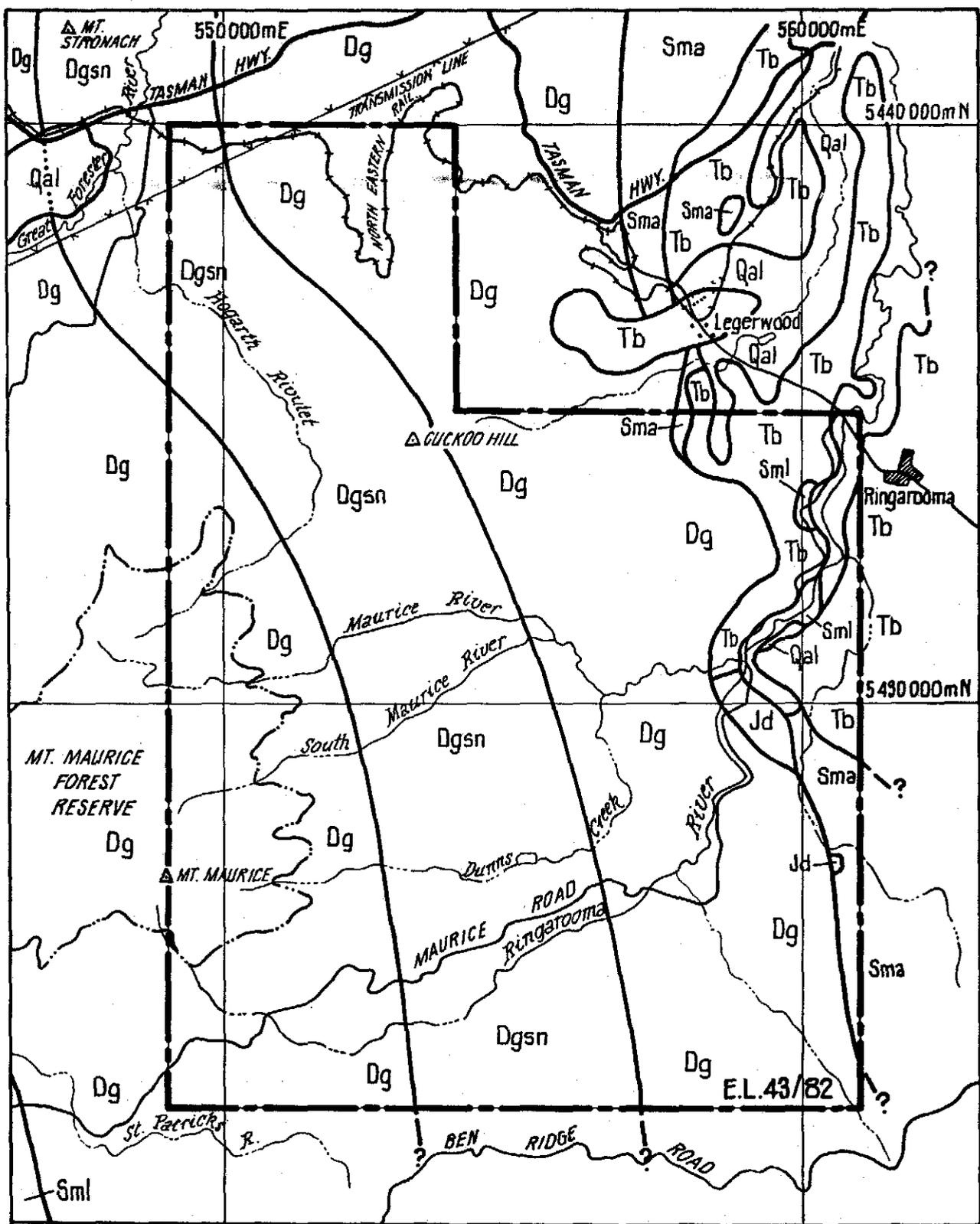
Minor outcrops of basalt, dolerite and Mathinna Beds have been mapped within the Licence. The Mathinna Beds occur as a quartz wacke turbidite sequence and as contact metamorphic psammites, spotted pelites and schists.

Preliminary mapping by the Oceanic Exploration Company (Figure 5) showed the Mines Department's white biotite adamellite zone was within a 3-4 km wide zone of "stanniferous-type granite" extending from Mt. Stronarch through Cuckoo Hill to Ding Dong Hill. This "stanniferous granite" covered about 4 times the area of the white biotite adamellite.

The only mapped mineralisation within the Licence is a zone of tin/copper veining (with minor adjacent Mo veining)

01.

200010



QUATERNARY	Qal	Alluvium, clay, sand, gravel
TERTIARY	Tb	Basalt
JURASSIC	Jd	Dolerite
DEVONIAN	Dg	Granite
	Dgsn	Stanniferous type granite
SILURIAN	Sma	Malthinna Beds Arenite - lutite fm.
	Sml	Lutite fm.

5 cm

FIG. 5. OCEANIC EXPLORATION CO. GEOLOGY E.L.43/82 MT. MAURICE TAS.

to the northeast of Mt. Maurice. A brief geological examination (Glazebrook, 1970) reported biotite granite, greisen and muscovite granite with abundant orthoclase hosting mineralised quartz veins and disseminated pyrite (Section 5.2).

More detailed mapping of the south of the Licence is required.

5. PAST EXPLORATION

5.1 Mining Activity

In 1852 gold associated with quartz reefs in the Mathinna Beds sequence was discovered in the Mangana-Mathinna area (southeast of E.L. 43/82). Gold occurrences were traced north through Alberton, Ringarooma, Branxholm, Warrentinna and Forester to the Waterhouse area (north coast). Approximately 527,000 fine ounces of gold were extracted from this field between 1852 and the 1920's when most gold mining ceased.

As gold mining declined, alluvial tin mining increased in many of the northeast Tasmanian rivers. Alluvial tin workings often led to hard-rock tin discoveries, particularly in the Blue Tier area (northeast of E.L. 43/82). Large-scale tin mining continued until the 1930's except for the Pioneer Tin Mine (alluvial) which worked intermittently until 1982. Small-scale mining by individual prospectors continues.

The only known primary mineralisation within E.L. 43/82 is the South Maurice River, altered granite hosted, copper-tin-quartz veining. This mineralisation was discovered in 1876 by prospectors tracing alluvial tin up the Maurice River. The prospect was worked by shaft and adit until the late 1890's. Secondary alluvial cassiterite is abundant in the Ringarooma River.

5.2 Exploration

Exploration paralleled the mining activity but was dominated by individual prospectors until the 1970's. The only recorded information prior to 1970 was by geologists of the Tasmanian Department of Mines. These

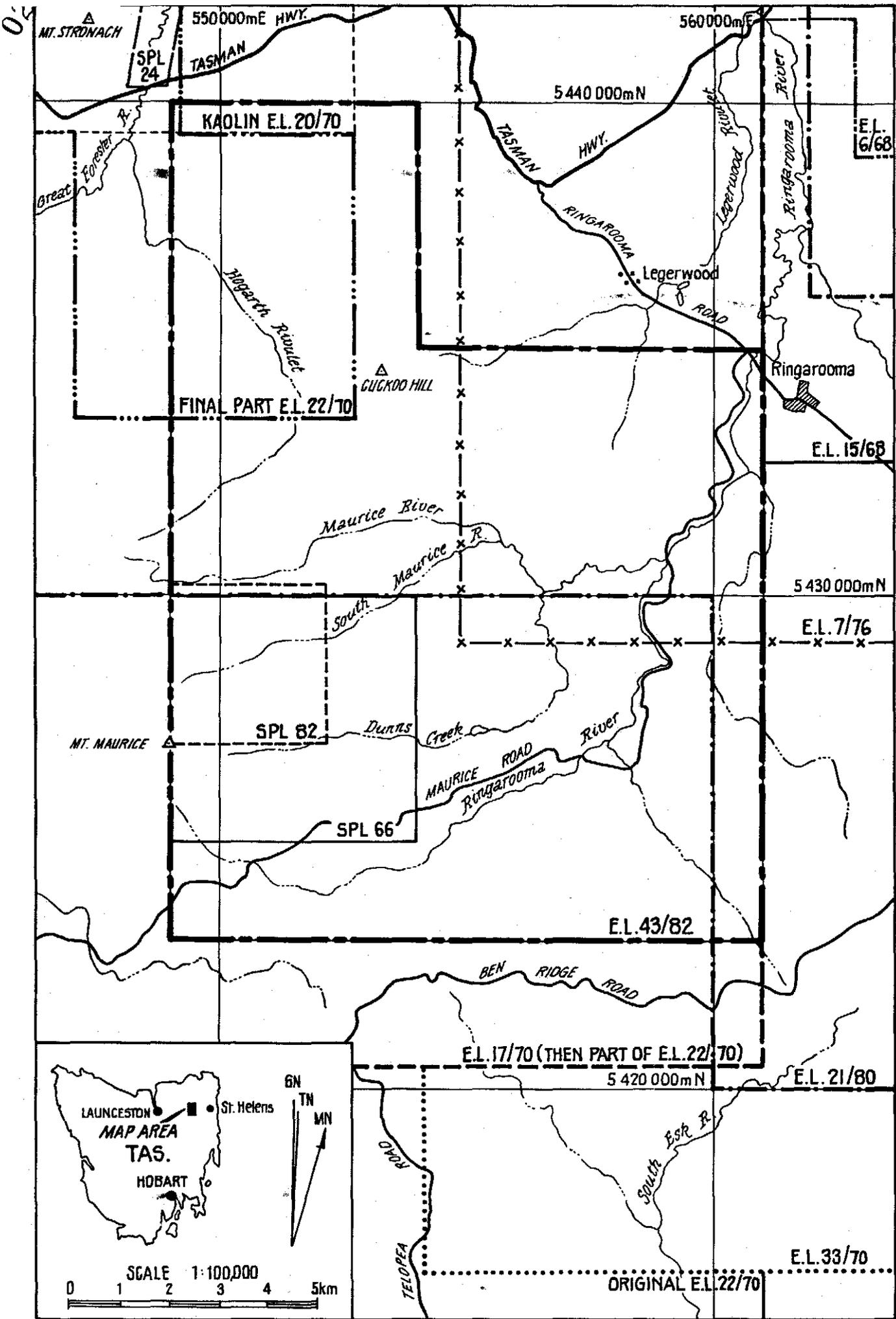


FIG. 6. PAST EXPLORATION PERMITS E.L.43/82 MT. MAURICE TAS.

reports were brief and concerned the development of the South Maurice River Sn/Cu prospect or the sampling of gravels along the Ringarooma River for tin assays.

Since 1969 parts of E.L. 43/82 have been held by six groups: J.J. O'Shea, the Cox Syndicate, R.B. Mining Pty. Ltd., Stannon Engineering Co. Pty. Ltd., Oceanic Exploration Co. and Union Corporation (Figure 6).

5.2.1 J.J. O'Shea Work (SPL 66)

On 21st May, 1969, J.J. O'Shea (a Launceston prospector) pegged an area of 10 ml² (SPL 66) immediately east of the Mt. Maurice trig. station. This Licence was granted on 11th June, 1969.

Although little record of any work on the Licence is available it is believed that the old access track to the South Maurice River prospect was re-opened. This was used to gain access to the upper reaches of the Maurice River during prospecting for the "hard-rock source" of the alluvial cassiterite found downstream. Despite his interest in the alluvial tin, J.J. O'Shea took three rock samples from the old Sn/Cu workings. The samples and their analysis results were:

<u>Description</u>	<u>Mo</u>	<u>Bi</u>	<u>Cu</u>	<u>W03</u>
Granite	-	-	0.02%	trace
Quartz vein	0.01%	0.07%	0.20%	0.82%
Quartz vein with Mo	0.08%	0.1%	0.02%	0.61%

No further work was initiated and SPL 66 expired on 11th December, 1969.

5.2.2 Cox Syndicate Work (SPL 82)

At the end of 1969 a group of Scottsdale prospectors (the Cox Syndicate comprised of J.S. Cox, R. Stevenson, P. Dangerfield and F. Stevenson) became interested in the SPL 66 area. Preliminary prospecting showed the South Maurice River Sn/Cu prospect was the only visible mineralisation. This 4 ml² area (immediately northeast of the Mt. Maurice Trig. station) was pegged, and on 11th March, 1970, was granted as SPL 82.

An inspection of the South Maurice River prospect showed the dominant rocks to be biotite granite, greisen and orthoclase-rich muscovite granite containing disseminated pyrite (Glazebrook, 1970). These had been intruded by a 1.6 km long by 0.1-0.2 m wide quartz reef striking 050^o and dipping 85-90^o to the northwest. Costeans (to depths of 30 m) across this quartz reef showed chalcopyrite, pyrite, bornite, chalcocite and minor molybdenite. Selected reef samples contained up to 1.5% Cu, 1000 ppm Sn and minor Pb, Zn, Mo and Bi (Appendix I).

SPL 82 was offered to Westcharter Management Pty. Ltd. A brief field visit showed the quartz reef to contain tension fractures with primary pyrite, chalcopyrite and molybdenite (Williamson, 1970). Seven rock samples were examined by a low power microscope (Appendix II) before the joint venture option was allowed to lapse.

No further investigations of SPL 82 were reported. However, Thisens Exploration Ltd. (under a J.V. option) studied the South Maurice

- 10 -

River prospect by collecting and analysing 40 soil samples (pers. comm - J.S. Cox). Results were sufficiently encouraging for a further 40 soil samples to be taken and analysed before the option lapsed.

Jedda Mining and Exploration were offered a 50% share in SPL 82 on condition 4 holes were drilled. These holes were supposed to have been drilled during 1971 into the Sn/Cu prospect by a bombardier-mounted diamond drill rig. No hole locations or logs were reported. Holes were drilled to test targets defined by divining rod. The four vertical holes (all in granite) were drilled to depths of 25, 9, 110 and 110 feet with the third hole intersecting copper veins to a depth of 65 feet (pers. comm. - J.S. Cox).

The Licence expired on 11th September, 1972.

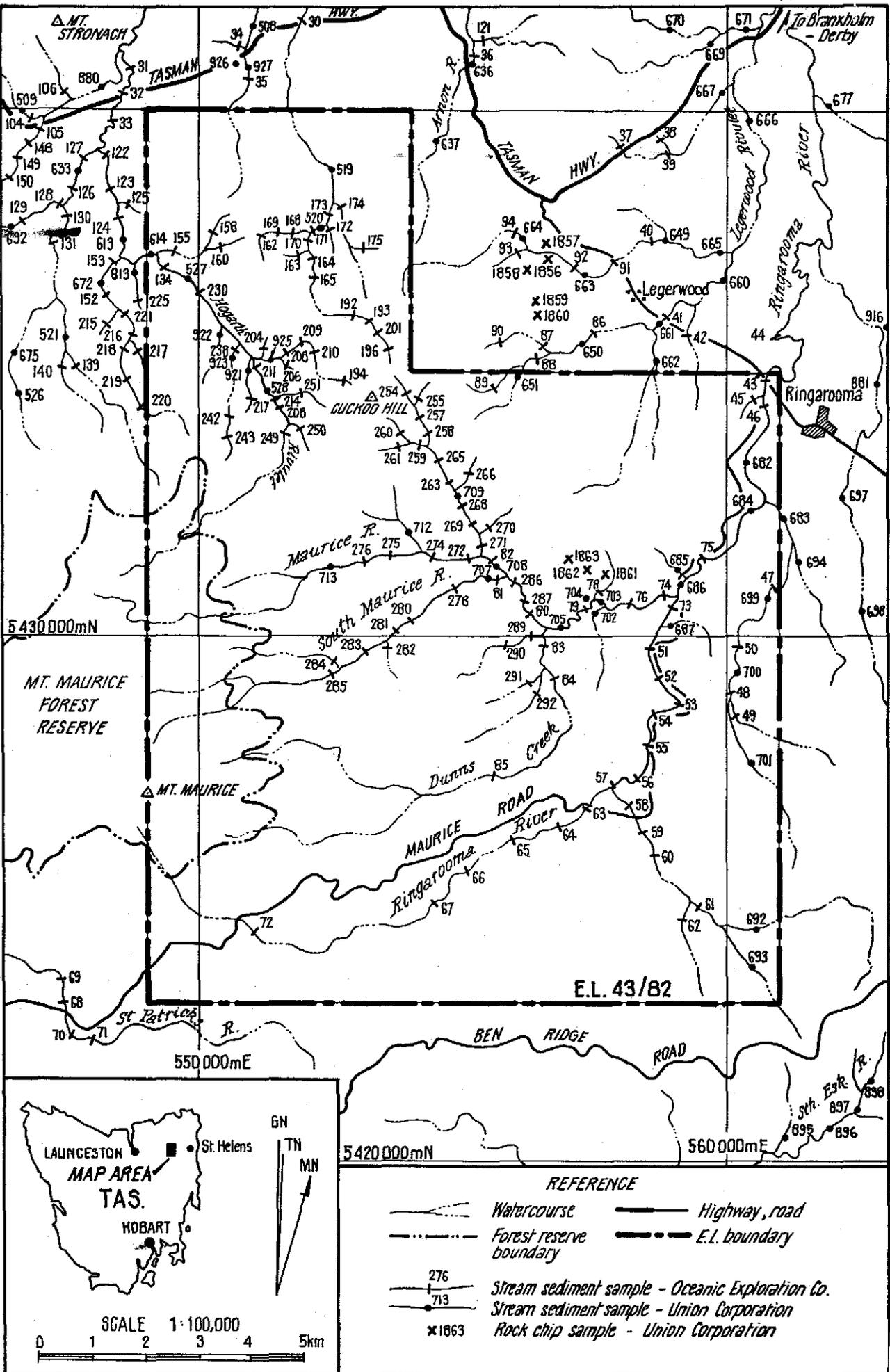
5.2.3 R.B. Mining Pty. Ltd. Work (E.L. 17/70)

On 19th February, 1970 R.B. Mining Pty. Ltd. (a division of Roche Brothers Pty. Ltd.) pegged 154 ml² to the southeast of Scottsdale as a copper, gold, tin and/or tungsten prospect. This was granted as E.L. 17/70 on 24th March, 1970.

No work was recorded and the Licence expired on 24th September, 1970.

5.2.4 Oceanic Exploration Company Work (E.L. 22/70)

On 24th February, 1970 the Oceanic Exploration Co. pegged 420 ml² in the Scottsdale district (including the E.L. 17/70 area). A re-



**FIG. 7. PAST STREAM SEDIMENT SAMPLE LOGATIONS
E.L.43/82 MT. MAURICE TAS.**

5 cm

025

application for the 200 ml² surrounding E.L. 17/70 was granted as E.L. 22/70 on 2nd April, 1970. In early 1971, E.L. 22/70 was increased to 450 ml² (including the former E.L. 17/70).

Little exploration was reported in 1970. During 1971 a geological map (Figure 5) was produced and widely spaced sediment samples were taken from easily accessible streams. The semi-quantitative spectrographic analyses of the 402 sediment samples for Sn, W, Mo, Be, V, Cu, Sb, Zn, As and Au (Figure 7, Appendix III) showed the south and west parts of E.L. 22/70 (south and west of E.L. 43/82) contained no anomalies. This 149 ml² area was relinquished in April 1971. Of the retained area the portion with the highest economic potential was the "tin granite" extending south from the Mt. Stronarch molybdenite anomalous zone (Chronic and Gallagher, 1971). This zone (included in E.L. 43/82) contained several anomalous stream sediment tin values (to 80 ppm) in the headwaters of the Maurice and Ringarooma Rivers and Hogarth Rivulet.

No further exploration was reported from E.L. 22/70. However, in November 1971, the Licence was reduced to the 24 ml² over the Mt. Stronarch-Cuckoo Hill area. The Licence was allowed to expire on 2nd April, 1972.

5.2.5 Stannon Engineering Company Pty. Ltd. Work (E.L. 7/76)

In early 1976 Stannon Engineering Co. Pty. Ltd. applied for three Exploration Licences (E.L. 6/76, E.L. 7/76 and E.L. 8/76) over the Mangana-Mathinna-Alberton-Warrentinna-Forester Goldfields.

Part of the 450 km², E.L. 7/76, covered the portion of E.L. 43/82 east of Cuckoo Hill and north of Trenah.

After the Licence was granted on 22nd April, 1976, an historical review and re-arrangement of old goldfield data was reported. No information for the E.L. 43/82 was given.

5.2.6 Union Corporation Australia Pty. Ltd. Work
(E.L. 21/80)

On 16th April, 1980, Union Corporation pegged an Exploration Licence for 910 km² for the area between Scottsdale and the eastern boundary of E.L. 11/78 (CSR's old George River Licence). Most of this area was the subject of a prior application by Verbaan Development Pty. Ltd. The Verbaan application was not granted and thus Union Corporation's application was granted as E.L. 21/80 on 10th September, 1980. A small portion of E.L. 21/80 covered the northern part of E.L. 43/82.

After Union Corporation reviewed the previous exploration (Winnall, 1980b) an orientation stream sediment sampling programme was undertaken in areas of greisen and quartz vein tin deposits in the Mount Paris and Ben Lomond granites. Best responses were obtained from the -80 mesh fraction and panned "heavies" (Winnall, 1980a).

In early 1981 a stream sediment sampling programme was undertaken. Of the 416 samples analysed for Sn, W, Mo, Cu, Pb and Zn, about 42 were in or adjacent to the northern part of E.L.

43/82 (Figure 7) and 11 of these had anomalous values (Table 2), particularly for Sn (up to 380 ppm). Most of the anomalous streams drained the Cuckoo Hill and Maurice River areas outside of E.L. 21/80 (now inside E.L. 43/82).

Follow-up of anomalies included the taking of minor rock samples in an apparently illogical manner. No attempts were made to determine the entry points of the anomalous elements into the streams. The probable source of the largest anomaly (the old South Maurice River working) was not visited.

Union Corporation's exploration policy changed from "grass-roots" to drilling targets (pers. comm. - N. Winnall) and the Licence was relinquished on 10th March, 1982 without further investigation of the anomalies.

5.3 Government Evaluation

During the 1870's to 1890's, Government geologists mentioned the Mt. Maurice-South Maurice River workings in Annual Reports. These were brief and simply stated that mining was occurring. No geological descriptions of the area or the workings were given.

The only other Government study of E.L. 43/82 was the 1975 mapping summary of the Launceston 1:250,000 sheet and the 1977 mapping of the Ringarooma 1:50,000 sheet (see Section 4). Regional geology was shown by the 1975 mapping (Figure 1). More detail for the area north of Ringarooma is provided by the 1977 mapping (Figure 4). This mapping defined several zones of alkali feldspar granite intrusions (dykes and veins) in the dominantly biotite adamellite mass. These alkali

028

280029

TABLE 2

STREAM SEDIMENT SAMPLE ANALYSES FROM UNION CORPORATION - E.L. 21/80

	Cu	Pb	Zn	Mo	Sn	W	Concentrate Weight (g)	Stream Sediment Sample Weight	Sn
508	5	15	15	2	40	<10	27.95	4082	330
509	10	15	25	<2	20	<10	56.57	3855	<5
519	5	30	55	5	20	<10	160.10	3629	10
520	10	40	50	5	5	<10	57.45	3624	<5
521	10	50	25	5	5	<10	69.97	3855	25
526	5	15	25	2	5	<10	124.34	4082	<5
527	25	30	65	2	30	<10	75.02	4082	<5
528	5	20	35	5	<5	<10	84.54	3629	<5
613	5	20	35	5	10	<10	67.5	4536	<5
614	10	25	55	<2	20	10	40.3	4536	5
632	5	20	45	<2	60	<10	60.2	4082	80
633	<2	15	40	<2	<5	<10	37.5	3629	5
636	10	25	55	<2	20	<10	18.9	2540	<5
637	5	15	20	<2	20	<10	15.3	2857	25
649	10	30	55	5	20	<10	30.7	3175	75
650	5	30	35	5	20	<10	157.9	3175	<5
651	5	20	30	5	15	<10	41.8	3486	10
660	15	35	70	5	20	<10	64.4	2540	60
661	5	30	45	5	10	<10	79.9	2540	10
662	5	20	20	5	10	<10	58.9	2857	<5
663	5	35	395	5	5	10	56.7	3486	10
664	15	30	15	5	<5	<10	51.2	2857	<5
665	10	35	65	5	<5	<10	58.6	2540	<5
666	10	35	85	10	15	<10	53.4	2857	<5
667	10	20	70	<2	<5	<10	63.2	2857	<5
668	5	20	45	5	10	<10	56.6	3175	10
669	25	25	100	<2	20	<10	72.3	3175	25
670	10	20	25	<2	<5	<10	52.3	2857	<5
671	15	30	105	<2	15	<10	80.5	1905	25
672	15	35	55	<2	10	<10	39.1	2857	25
675	<2	30	30	<2	5	<10	55.7	3175	<5
677	25	25	65	<2	.11%	10	43.8	3175	.27%
682	20	40	80	5	85	<10	33.1	3175	55

029

280030

- 2 -

							Concentrate	Stream	
							Weight	Sediment	
	Cu	Pb	Zn	Mo	Sn	W	(g)	Sample	Sn
								Weight	
683	20	105	15	5	5	<10	64.5	2857	20
684	20	35	75	<2	105	<10	62.7	3175	50
685	15	50	80	5	5	<10	41.0	3175	25
686	20	30	55	<2	270	10	44.6	3175	405
687	15	45	75	<2	60	10	52.9	3175	15
692	15	40	110	5	10	<10	41.7	3175	<5
693	5	25	65	<2	<5	<10	45.2	3175	<5
694	15	25	95	<2	25	<10	78.0	3175	105
697	20	15	100	<2	<5	<10	27.1	?3175	60
698	5	5	20	<2	<5	<10	47.6	?3175	5
699	20	20	70	<2	5	10	51.9	3175	10
700	30	25	95	2	5	20	22.9	3175	20
701	30	25	100	2	5	<10	18.6	3175	30
702	10	35	55	5	30	<10	54.0	3175	145
703	35	70	120	5	70	20	59.6	3175	30
704	30	25	55	5	380	20	49.5	3175	385
705	25	35	65	5	170	20	46.5	3175	90
707	20	20	50	5	45	20	56.8	3175	45
708	10	20	45	5	25	<10	39.2	3175	10
709	10	30	50	<2	5	<10	30.1	3175	<5
712	10	5	30	5	25	10	23.3	3175	35
713	15	20	45	5	10	20	62.5	3175	5
813	15	25	30	2	<5	<10			
880	15	25	30	2	15	<10	49.98	3628	<5
881	20	30	110	5	<5	<10	71.64	3570	5
895	15	30	65	5	<5	<10	73.08	2381	<5
896	15	30	60	10	<5	<10	97.16	2722	5
897	20	25	165	5	10	10	119.30	2722	10
898	15	30	85	5	5	<10	109.32	2892	15
916	30	30	65	5	.33%	<10	82.643	3203	.42%
922	10	15	30	10	40	10	84.52	2296	80
923	20	25	35	2	45	20	66.62	1502	30

030

280031

- 3 -

	Cu	Pb	Zn	Mo	Sn	W	Concentrate Weight (g)	Stream Sediment Sample Weight	Sn
924	10	25	30	2	15	40	86.02	1871	5
925	10	20	22	2	20	10	105.26	1871	20
926	10	30	20	5	<5	<10	73.47	1899	<5
927									

Rock Samples	Cu	Pb	Zn	Mo	Sn	W
1856	2	20	10	<4	5	20
1857	<2	15	30	<4	<5	20
1858	2	10	15	<4	<5	20
1859	45	25	110	<4	<5	<10
1860	45	50	105	<4	<5	<10
1861	5	20	30	<4	10	10
1862	5	25	35	<4	<5	10
1863	<2	30	70	<4	5	10

031

feldspar granites are associated with the major tin mineralisation in the Blue Tier Batholith. The 1977 mapping showed that the northern part of the stanniferous granite mapped by Oceanic Exploration (Figure 3) was probably a medium to coarse-grained sparsely porphyritic white biotite adamellite (Figure 4).

Very little mapping has been completed in the southern half of the Licence.

6. CONCLUSIONS

E.L. 43/82 contains at least one known Cu/Sn zone of mineralisation. Other mineralisation in the adjacent area is molybdenum at Mt. Stronarch and alluvial tin in the Ringarooma River. Despite this known mineralisation very few explorationists have studied the area in detail. In fact, a detailed geological map of the complete area does not exist.

Minor stream sediment sampling by two companies has indicated several anomalous Sn/Cu/W zones. None of these have been further investigated.

Stream sediment, magnetic concentrate and panned concentrate sampling in conjunction with geological mapping could quickly and cheaply determine the prospectivity of the area. The target model is tin and/or copper mineralisation within granite (similar to the Anchor Mine-type tin-rich cupola) and thus meets CSR's commodity strategy.

7. RECOMMENDATIONS

A stream sediment sampling programme should be undertaken with particular attention being made to areas of past stream sediment geochemical anomalies. Magnetic concentrates and panned concentrates should be collected as well as conventional active stream sediments. Samples should be analysed for Cu, Pb, Zn, Bi, As, Sb, Mo, Sn and W.

A geological map of the Licence should be produced. A preliminary air-photograph interpretation should define areas of interest and determine the geology. This will be followed by field examination. Geological information obtained during the stream geochemical sampling programme will be plotted and compared to the air-photo geology.

Once defined, anomalous areas will be gridded with soil geochemistry and possibly geophysics (gravity, magnetic, VLF-EM).

*Exploration of this area needs
a careful review when the reconnaissance is
completed. Limited green targets may not be
worthy of further exploration.
RtW 31/1/84*

8. REFERENCES

- ANON, 1976 : Preliminary Report on the Forester/
Waterhouse/Alberton/Den Rivulet/Mathinna/
Mangana Goldfields. Unpub. Rpt. 011 of
Stannon Engineering Co. Pty. Ltd.
- CHRONIC, J. & GALLAGHER, A.V., 1971 : A Molybdenum
Prospect in Tasmania, E.L. 22/70, Scottsdale-
Diddleum Plains. Unpub. Oceanic Exploration
Co. Rpt.
- DART, G.W., 1976 : Report on E.L. 6/76, E.L. 7/76 and
E.L. 8/76. Unpub. Stannon Engineering Co.
Pty. Ltd. Rpt.
- GLAZEBROOK, C., 1970 : Preliminary Inspection Report on
the Mt. Maurice Prospect near Ringarooma,
Tasmania, SPL 84. Unpub. Rpt. to the J.S.
Cox Syndicate.
- WILLIAMSON, H.C., 1970 : Report on the Mt. Maurice
Prospect, Tasmania. Unpub. Rpt. to the J.S.
Cox Syndicate.
- WINNALL, N.J., 1980(a) : E.L. 21/80 Preliminary Report
No. 1. Unpub. Union Corporation (Aust.) Pty.
Ltd. Rpt.
- WINNALL, N.J., 1980(a) : Preliminary Report No. 2.
Unpub. Union Corporation (Aust. Pty. Ltd.
Rpt.
- WINNALL, N.J., 1981(a) : E.L. 21/80 Preliminary Report
No. 3. Unpub. Union Corporation (Aust. Pty.
Ltd. Rpt.

035

280036

WINNALL, N.J., 1981(b) : E.L. 21/80 Preliminary Report
No. 4. Unpub. Union Corporation (Aust. Pty.
Ltd. Rpt.

WINNALL, N.J., 1981(c) : E.L. 21/80 Preliminary Report
No. 5. Unpub. Union Corporation (Aust. Pty.
Ltd. Rpt.

WINNALL, N.J., 1981(d) : E.L. 21/80 Preliminary Report
No. 6. Unpub. Union Corporation (Aust. Pty.
Ltd. Rpt.

WINNALL, N.J., 1982 : E.L. 21/80 Final Report. Unpub.
Union Corporation (Aust. Pty. Ltd. Rpt.

PDE/SGL

OCTOBER 1983

036

280037

APPENDIX I

ANALYSES OF SELECTED QUARTZ REEF SAMPLES FROM SPL 82



MINEX ANALYTICAL LABORATORIES PTY. LTD.
ANALYSTS AND CONSULTANTS TO MINING, AGRICULTURE AND INDUSTRY

4-8 GWYNNE STREET, RICHMOND, VIC. 3121

PHONE: 42 4706, 42 4707

TELEGRAMS & CABLES: MINEXLABS, MELBOURNE

4th May, 1970.

70/282

H. Jarvis Esq.,
Mineral Exploration Pty. Ltd.,
306 Russell Street,
MELBOURNE, VIC. 3000

Sample No.	As oz/ton	%Zn	%Pb	W ppm	Mo	%Cu	%Bi
2	0.3			206		1.50	
4						0.45	
5						0.83	
6						1.14	
7					0.08	0.06	
8						0.44	
9						0.02	
11		0.01	0.08		<0.01	0.03	0.02
12					0.01	0.31	
14						<0.01	0.18
15					0.13	0.69	0.04
16					0.03	0.02	0.14

Method : W - Colorimetric Dithiol

Ag, Zn, Pb, Mo, Bi and Cu : Atomic Absorption
± 2% relative accuracy.

J. Hopper
(Mrs.) I. Hopper
Manager.

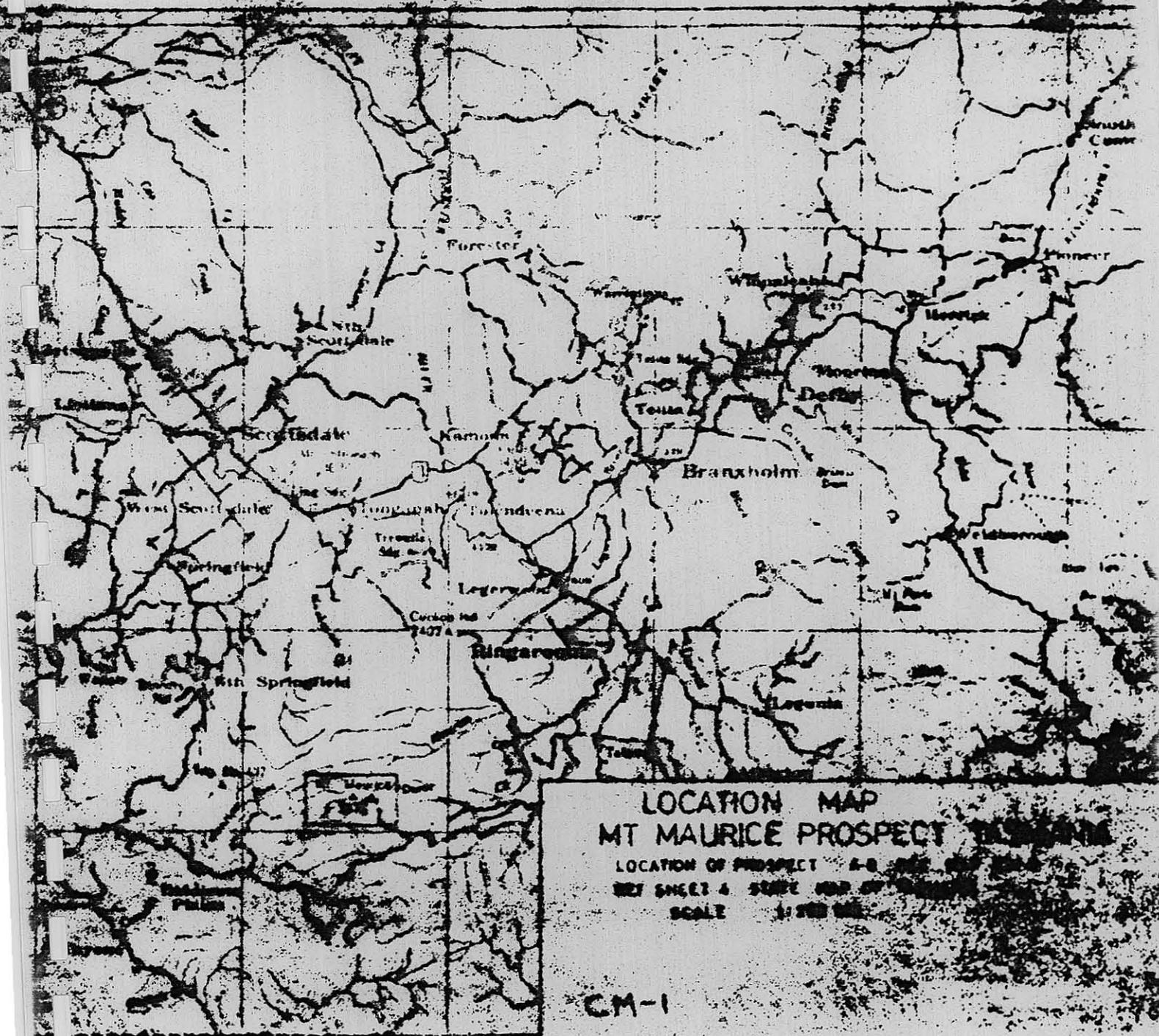
DATE 4/4/70

039

SAMPLE NO.	TYPE	DESCRIPTION	SURVEY LOCATION or BEARING	
1	Out Crop	Greisenous Granite Carrying Pyrite. Jointing AT RT LS 160°/250°	Costean bearing 10°W of S	WideScan - 1/2 mile N.W of Main Reef Area
2	✓	Quartz Reef in Weathered Orthoclase Granite From base	Ref. Map 2 Costean No. 2	- To Assay for Cu,-----
3	✓	" " " " " "	"	- WideScan)
4	✓	" " " " " From middle	"	- Assay) Copper Mineralisation Abundant
5	✓	" " " " " Abundant ironstaining from top	"	- WideScan)
6	✓	Quartz Reef carrying As For Chalcopyrite, Pyrite samples 2,3,4,5, Bornite, Some Chalcocite	Ref. Map 2 Costean No. 1	- WideScan) - Assay) Minor Cu Mineralisation mainly Pyrite
7	✓	Quartz Reef A/A strike 50° E of N Dip vert. to 85°	Ref. Map 2 Costean 3	- WideScan Assay (Mo in Costean)
8	✓	Quartz (4") vein	Ref. Map 2 Costean 4	- Assay Cu,
9	✓	Quartz vein (1') showing copper/pyrite	Ref. Map 2 Costean 6	- Assay
10	✓	Quartz vein (3") Poor	Ref. Map 2 Costean 7	- WideScan
11	Soil Sample	Over unexposed Reef (following trend)	Ref. Map 2	- Assay Cu Pb, Zn, Ag, Mo, Bi, Sn
12	"	Off All Reef Area	" "	- Assay Cu, Pb, Zn, Ag, Mo, Bi, Sn
13	(Reef)	Quartz Vein	" "	- WideScan
14	✓	" "	Costeans	-
15	✓	" "	9, 10, 11	- Assay Cu, Mo, Bi.
16	✓	" "		* NB Line of Costeans and exposed reef is 50° E of N Thins to NE of 4" Costean 4 thickest in Costean 2 (4' Thinning to 1' to SW Costean 5

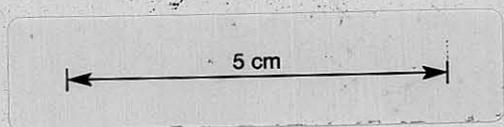
280040

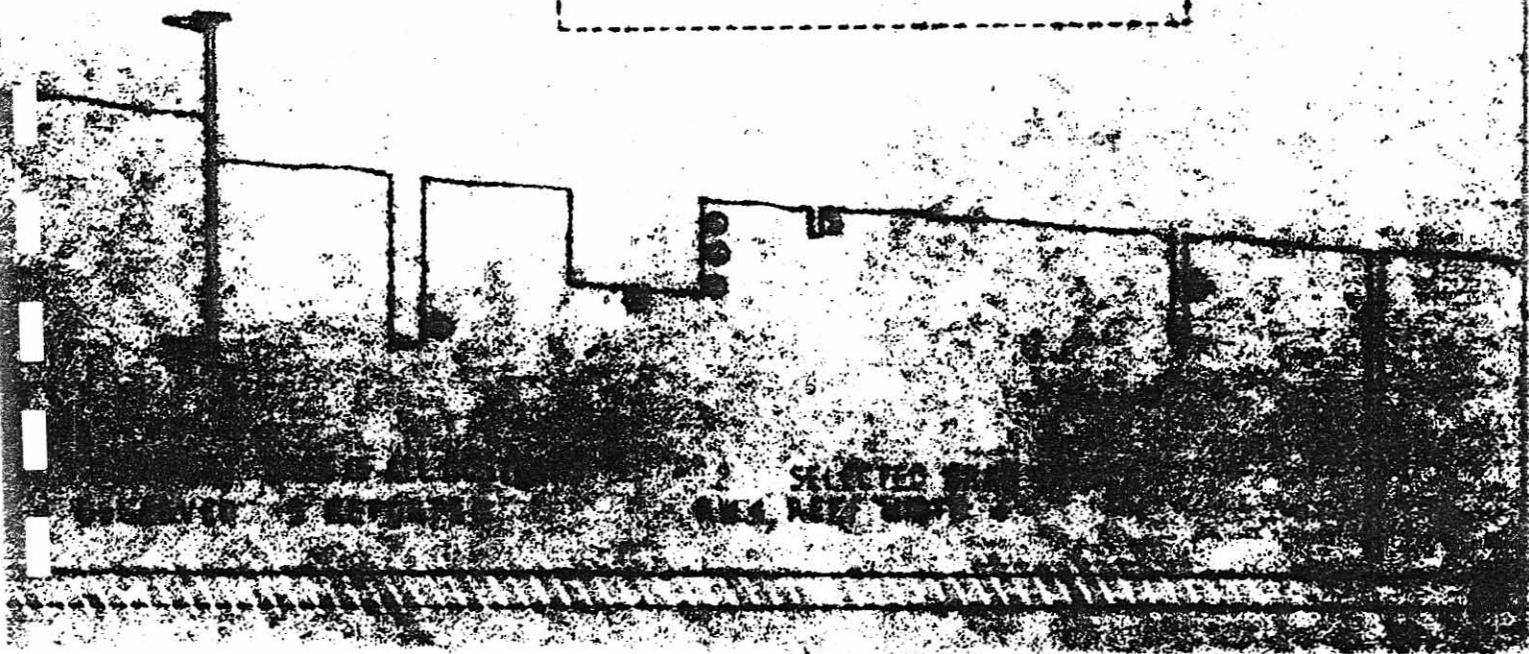
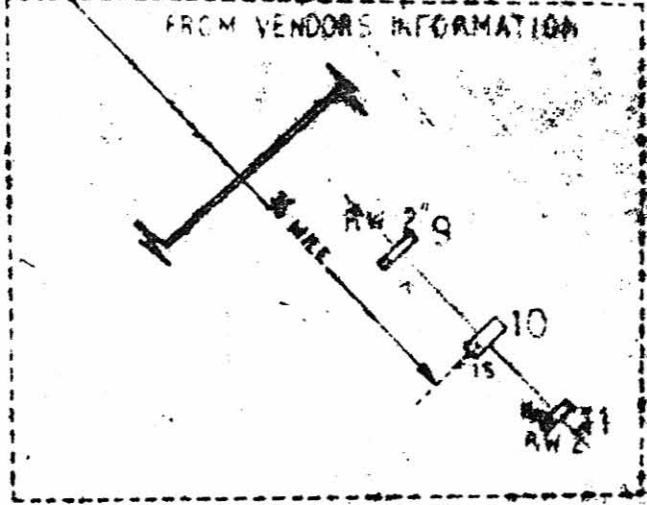
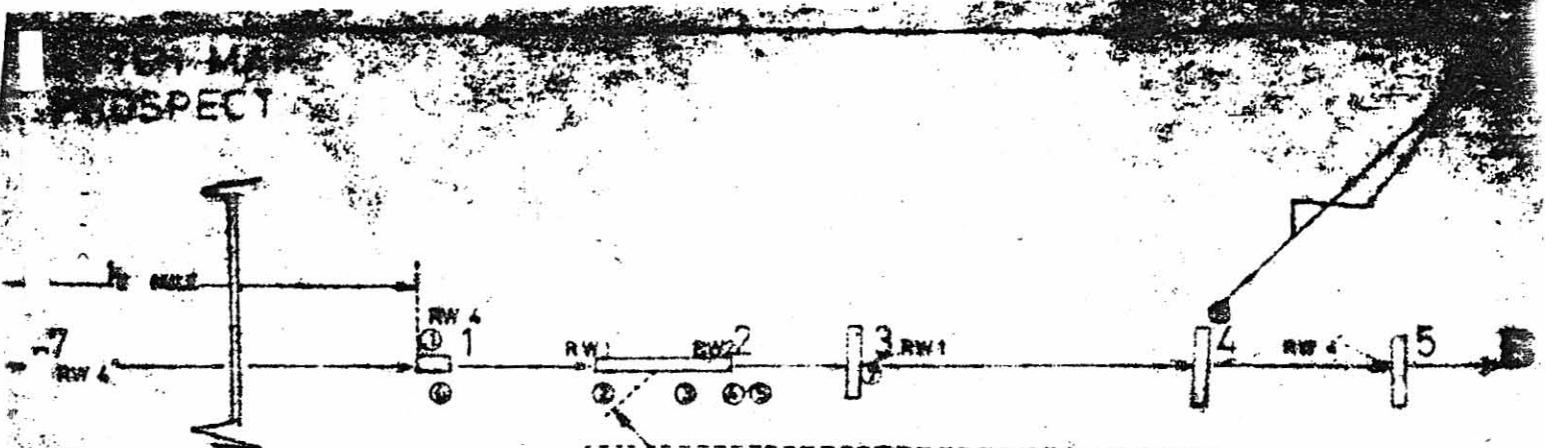
040



CM-1

1:20 000





SELECTED PLAN
 1964, 1972, 1973

042

280043

APPENDIX II

DESCRIPTIONS OF SELECTED SAMPLES FROM SPL 82

LOCATION OF SAMPLES

- Sample 1 Sent to Chief Geologist,
Geological Survey of Tasmania.
- Sample 2 5" wide quartz vein. Sampled at 1st
Stop on 1st day = to C. Glazebrook's
Stop 1.
- Sample 3 As per Sample 1
- Sample 4 As per Sample 2
- Sample 5 Molybdenite prospect 1.5 miles North
Mt. Maurice
- Sample 6 Ditto showing quartz in contact with
granite
- Sample 7 Sample from Shaft 1.8 ft. wide quartz
vein
- Sample 4

%Cu	%Pb	%Ni	%Zn	%Mo	%As
0.03	0.01	0.01	less than 0.01	less than 0.01	0.06
- Sample 7

0.04	0.02	less than 0.01	less than 0.01	0.01	0.07
------	------	----------------------	----------------------	------	------

Method atomic absorption \pm 7% relative accuracy.

Reference: Geological Survey Bulletin Nos. 46 and 50

The contrast in granitic types associated
with tin and gold mineralisation in Tasmania
J. Klomensky and D.I. Grooves, pages 71-79

The Proceedings of the Australiasian
Institute of Mining and Metallurgy No. 234,
June, 1970

Report Mr. C. Glazebrook on S.P.L. 82
prepared for the Cox Syndicate

MINERALOGICAL DESCRIPTION OF FIVE SAMPLES FROM MT. MAURICE
PROSPECT IN NORTH-EASTERN TASMANIA

A low-power (x70) stereo-microscopical description of a suite of seven (7) Mt. Maurice, Tasmania, siliceous ore samples gave the following results:

<u>Sample No.</u>	<u>Description of Specimen Mineralogy</u>
No. 2	Irregularly distributed blebs (0.5-2 mm) of chalcopyrite with minor pyrite in fractured limonitic-stained vein quartz. Some cp. grains have secondary (supergene) sooty chalcocite and covellite coatings. The sulphides occur as fracture fillings. No secondary copper carbonates present. Tungsten (scheelite) mineralisation absent. Radioactivity normal background. Some green chloritic alteration present in interstitial matrix.
No. 2a	Similar to above specimen, except cp (chalcopyrite) less in evidence. Some vugs present.
No. 5	Vuggy crystalline grey to white vein quartz with some anhedral blebs of cp and py mineralisation. Small scattered flakes of molybdenite occurred as fracture fillings. Minor supergene covellite and chalcocite coating cp in vugs also present.
No. 5a	Small fragment showing limonitic staining in quartz-feldspar gangue. Minor chlorite. No scheelite present.
No. 5b	Fragment containing quartz with chlorite alteration and randomly distributed molybdenite flakes as fracture coatings. No Cu mineralisation present. Scheelite absent. Radioactivity normal background.
No. 6 or 11	Large specimen (7 x 5 in.) of fractured vein quartz within granitic host-rock (feldspathic phase). No megascopic sulphide mineralisation present. Scheelite mineralisation present as irregularly disseminated coarse (3 mm) particles within fractures quartz gangue. Quartz vuggy with limonitic staining. Kaolinitic alteration of feldspar. Radioactivity normal background.
Copper Shaft No. number	Yellow brown limonitic-stained vuggy quartz with minor molybdenite mineralisation in fracture. No Cu sulphide or scheelite mineralisation visible. Radioactivity normal background.

The examination for scheelite was made with a short-wave Mineralight of 2357A.U. Radioactivity was checked with a Geiger counter.

The copper mineralisation in all samples is very erratic.

J. BORNER

045

280046

APPENDIX III

STREAM SEDIMENT ANALYSES FROM E.L. 22/70

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN NATIONAL BUREAU OF STANDARDS LABORATORIES

x = not detected at the limits quoted

REPORT AN 864112

③ = not listed
phosphorus

FORM 91

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	S ₂ (1)
518	x	x	x	x	8	x	x	x	x	1
149	x	x	1	x	5	x	x	x	x	x
150	x	x	x	10	3	x	x	x	x	x
151	x	x	x	10	3	x	x	x	x	1
152	x	x	1	10	3	x	x	x	x	1
153	x	x	x	10	3	x	x	x	x	10
154	x	x	1	15	3	x	x	x	x	1
155	x	x	1	10	5	x	x	x	x	x
156	x	x	1	15	10	x	x	x	x	x
157	x	x	1	10	3	x	x	x	x	x
158	x	x	3	10	3	x	x	x	x	1
159	x	x	2	15	3	x	x	x	x	1
160	x	x	2	10	3	x	x	x	x	1
161	x	x	2	30	3	x	x	x	x	1
162	x	x	1	20	3	x	x	x	x	1
163	x	x	2	20	3	x	x	x	x	1
164	x	x	2	10	3	x	x	x	x	1
165	x	x	3	15	5	x	x	x	x	1
166	x	x	3	15	5	x	x	x	x	1
167	x	x	1	10	3	x	x	x	x	1
168	x	x	1	10	3	x	x	x	x	1
169	x	x	3	15	5	x	x	x	x	1
170	x	x	3	20	3	x	x	x	x	1
171	x	x	2	10	1	x	x	x	x	1
172	x	x	2	15	2	x	x	x	x	1

Results are semi-quantitative. Elements apparently present in concentrations of interest should be redetermined by an appropriate accurate method.

Semi-Quantitative Spectrographic Analysis
 The Australian Mineral Development Laboratories
 detected at the limits quoted
 864/72

Limits in brackets.

047

Semi-Quantitative Spectrographic Analysis

280048

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 864/72

91

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No.	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	S (1)
173	x	x	2	20	1	x	x	x	x	1
174	x	x	3	15	3	x	x	x	x	1
175 ^D	x	x	1	60	20 ^C	x	x	x	x	1
176	x	x	1	20	3	x	x	x	x	1
177	x	x	x	20	5	x	x	x	x	1
178	x	x	x	10	5	x	x	x	x	1
179	x	x	1	15	3	x	x	x	x	1
180	x	x	1	15	3	x	x	x	x	1
181	x	x	2	15	3	x	x	x	x	1
182	x	x	2	15	5	x	x	x	x	1
183	x	x	3	80	5	x	x	x	x	1
184	x	x	1	15	5	x	x	x	x	1
185	x	x	2	20	3	x	x	x	x	1
186	x	x	3	15	5	x	x	x	x	1
187	x	x	3	20	10	x	x	x	x	1
188 ^D	x	x	2	15	100 ^E	x	x	x	x	1
189 ^D	x	x	1	15	300 ^E	x	x	x	x	1
190	x	x	2	10	5	x	x	x	x	1
191	x	x	1	20	5	x	x	x	x	1
192	x	x	3	15	3	x	x	x	x	1
193	x	x	2	15	3	x	x	x	x	1
194	x	x	1	20	10	x	x	x	x	1
195	x	x	2	10	3	x	x	x	x	1
196	x	x	x	80	5	x	x	x	x	1
197	x	x	3	30	10	x	x	x	x	2

Results are semi-quantitative. Elements apparently present in concentrations of 100 ppm or more should be subjected to a separate analysis.

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 864/72

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	S
198	x	x	2	15	10	x	x	x	x	1
199	x	x	3	15	10	x	x	x	x	1
200	x	x	3	30	10	x	x	x	x	2
201 D	x	x	1	15	20 ⁽¹⁾	x	x	x	x	1
202	x	x	2	10	10	x	x	x	x	1
203	x	x	3	15	10	x	x	x	x	1
204	x	x	3	10	15 ⁽¹⁾	x	x	x	x	1
205 D	x	x	2	10	20 ⁽¹⁾	x	x	x	x	1
206 D	x	x	1	10	100 ⁽⁵⁾	x	x	x	x	1
207	x	x	2	10	8	x	x	x	x	1
208	x	x	2	15	5	x	x	x	x	1
209	x	x	2	10	3	x	x	x	x	1
210	x	x	2	15	10	x	x	x	x	1
211	x	x	2	10	10	x	x	x	x	2
212	x	x	2	10	8	x	x	x	x	1
213	x	x	3	20	15 ⁽¹⁾	x	x	x	x	2
214 D	x	x	3	20	20 ⁽¹⁾	x	x	x	x	2
215	x	x	x	x	5	x	x	x	x	1
216	x	x	x	10	15 ⁽¹⁾	x	x	x	x	1
217	x	x	1	40	15 ⁽¹⁾	x	x	x	x	1
218	x	x	1	30	10	x	x	x	x	1
219 D	x	x	1	20	20 ⁽¹⁾	x	x	x	x	5
220 D	x	x	2	40	20 ⁽¹⁾	x	x	x	x	3
221	x	x	3	15	15 ⁽¹⁾	x	x	x	x	10
222	x	x	2	10	15 ⁽¹⁾	x	x	x	x	2

Results are not published. Elements apparently present in concentrations below detection limits should be redetermined.

049

Semi-Quantitative Spectrographic Analysis

280050

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 864/72

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No.	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	S (1)
223	x	x	10	30	10	x	x	x	x	1
224	x	x	10	10	10	x	x	x	x	1
225	x	x	10	15	10	x	x	x	x	1
226 ^D	x	x	10	15	20 ⁽¹⁾	x	x	x	x	1
227	x	x	10	15	15 ^{no}	x	x	x	x	1
228	x	x	10	15	10	x	x	x	x	1
229	x	x	3	10	15 ^{no}	x	x	x	x	1
230	x	x	5	15	15 ^{no}	x	x	x	x	3
231	x	x	10	20	5	x	x	x	x	1
232	x	x	x	x	3	x	x	x	x	1
233 ^D	x	x	1	10	20 ⁽¹⁾	x	x	x	x	1
234	x	x	1	x	5	x	x	x	x	2
235	x	x	x	15	10	x	x	x	x	2
236	x	x	1	10	15 ^{no}	x	x	x	x	2
237	x	x	1	30	10	x	x	x	x	1
238	x	x	10	15	10	x	x	x	x	2
239	x	x	10	20	10	x	x	x	x	1
240	x	x	3	30	10	x		x	x	5
241	x	x	10	20	15 ^{no}	x		x	x	2
242	x	x	3	20	10	x		x	x	2
243	x	x	3	15	10	x		x	x	1
244	x	x	3	30	15 ^{no}	x		x	x	2
245 ^Q	x	x	3	20	10	x		x	x	40
246	x	x	3	30	10	x		x	x	1
247 ^D	x	x	3	10	30	x		x	x	2

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate method.

Elements present in concentrations of economic interest should be redetermined by an appropriate method.

050

280051

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN GENERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 86/11

Results in ppm unless otherwise stated. Detection limits in brackets.

	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Sn (1)
18	x	x	2	10	10	x	x	x	x	1 E
19	x	x	10	20	15 no	x	x	x	x	1 E
20	x	x	2	10	10	x	x	x	x	1 E
21	x	x	3	10	10	x	x	x	x	1 E
22	x	x	10	15	3	x	x	x	x	1 E
23	x	x	3	x	3	x	x	x	x	1 E
24	x	x	2	60	5	x	x	x	x	1 E
25	x	x	3	30	3	x	x	x	x	1 E
26	x	x	2	10	5	x	x	x	x	1 E
27	x	x	2	20	8	x	x	x	x	1 E
28	x	x	2	15	3	x	x	x	x	1 E
29	x	x	2	15	5	x	x	x	x	1 E
30	x	x	2	20	10	x	x	x	x	1 E
31	x	x	1	20	3	x	x	x	x	1 E
32	x	x	2	20	5	x	x	x	x	1 E
33	x	x	3	20	5	x	x	x	x	1 E
34	x	x	3	20	5	x	x	x	x	1 E
35	x	x	1	15	3	x	x	x	x	1 E
36	x	x	2	20	3	x	x	x	x	1 E
37	x	x	5	30	5	x	x	x	x	1 E
38	x	x	2	10	5	x	x	x	x	1 E
39	x	x	3	15	5	x	x	x	x	1 E
40	x	x	3	20	8	x	x	x	x	1 E
41	x	x	3	40	10	x	x	x	x	1 E
42	x	x	3	20	15 no	x	x	x	x	1 E

Results are semi-quantitative. Elements apparently present in concentrations of economic importance are indicated by 'x'.

051

Semi-Quantitative Spectrographic Analysis

280052

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 864/72

Results in ppm unless otherwise stated. Detection limits in brackets.

	W (50)	Mo (3)	Be (1)	V (10)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Sr (1)
15	x	x	3	15	15 ^{no}	x	x	x	x	x
16	x	x	2	20	15 ^{no}	x	x	x	x	x
17	x	x	2	20	15 ^{no}	x	x	x	x	x
18	x	x	2	20	10	x	x	x	x	x
19	x	x	2	20	10	x	x	x	x	x
20	x	x	1	20	5	x	x	x	x	x
21	x	x	1	10	10	x	x	x	x	x
22	x	x	3	15	15 ^{no}	x	x	x	x	x
23	x	x	2	10	10	x	x	x	x	x
24	x	x	3	15	15 ^{no}	x	x	x	x	x
25	x	x	3	20	15 ^{no}	x	x	x	x	x
26	x	x	2	30	15 ^{no}	x	x	x	x	x
27	x	x	3	30	15 ^{no}	x	x	x	x	x
28	x	x	2	15	8	x	x	x	x	1
29	x	x	2	15	5	x	x	x	x	1
30	x	x	2	10	5	x	x	x	x	3
31	x	x	2	10	5	x	x	x	x	3
32	x	x	3	10	8	x	x	x	x	5
33	x	x	3	10	10	x	x	x	x	3
34	x	x	2	10	8	x	x	x	x	3
35	x	x	3	10	15 ^{no}	x	x	x	x	2
36	x	x	3	10	10	x	x	x	x	x
37	x	x	x	x	10	x	x	x	x	1
38	x	x	x	x	10	x	x	x	x	x
39	x	x	x	x	10	x	x	x	x	x
40	x	x	x	x	10	x	x	x	x	x
41	x	x	x	x	10	x	x	x	x	x
42	x	x	x	x	10	x	x	x	x	x
43	x	x	x	x	10	x	x	x	x	x
44	x	x	x	x	10	x	x	x	x	x
45	x	x	x	x	10	x	x	x	x	x
46	x	x	x	x	10	x	x	x	x	x
47	x	x	x	x	10	x	x	x	x	x

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be re-determined by an appropriate technique.

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 44-1-1171

(2) = 11% threshold
71-826

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	✓ (Ref)
1	1	x	x	20 ⁽¹⁾	x	100 ⁽²⁾	x	x	1	30
2	1	x	x	10	x	20	x	x	1	20
3	3	x	3	10	x	40 ⁽¹⁾	x	x	1	20
4	1	x	x	8	x	x	x	x	x	40
5	3	x	x	8	x	20	x	x	1	20
6	x	x	3	5	x	20	x	x	1	30
7	x	x	x	1	x	x	x	x	x	40
8	x	x	x	8	x	x	x	x	1	30
9	1	x	x	10	x	30 ⁽¹⁾	x	x	1	30
10	x	x	x	5	x	30 ⁽¹⁾	x	x	1	20
11	1	x	x	3	x	30 ⁽¹⁾	x	x	x	20
12	1	x	3	20 ⁽¹⁾	x	30 ⁽¹⁾	x	x	x	30
13	x	x	x	3	x	x	x	x	3	10
14	1	x	5 ⁽¹⁾	20 ⁽¹⁾	x	30 ⁽¹⁾	x	x	1	30
15	1	x	x	5	x	20	x	x	1	40
16	1	x	x	3	x	20	x	x	1	20
17	1	x	x	5	x	30 ⁽¹⁾	x	x	1	20
18	1	x	x	5	x	20	x	x	3	20
19	1	x	3	5	x	x	x	x	x	100
20	x	x	x	10	x	x	x	x	x	15
21	50	x	3	10	x	x	x	x	1	10
22	80	x	x	10	x	20	x	x	2	x
23	5	x	x	1	x	20	x	x	1	x
24	8	x	x	2	x	20	x	x	1	x
25	x	x	x	1	x	x	x	x	1	10

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be reported in separate reports.

280054

Semi-Quantitative Spectrographic Analysis

280055

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	✓ (10)
8	1	x	x	2	x	x	x	x	1	x
9	x	x	x	3	x	x	x	x	x	10
10	15 ⁽¹⁾	x	x	3	x	x	x	x	x	10
11	x	x	x	5	x	x	x	x	1	10
12	10	x	x	5	x	x	x	x	x	x
13	8	x	x	10	x	x	x	x	x	x
14	3	x	3	15 ^{no}	x	x	x	x	1	10
15	80 ⁽⁵⁾	x	x	8	x	x	x	x	x	15
16	150 ⁽¹⁰⁾	x	3	10	x	x	x	x	1	30
17	800 ⁽³⁾	x	x	10	x	x	x	x	1	30
18	1	x	x	10	x	x	x	x	1	10
19	120 ⁽³⁾	x	x	5	x	x	x	x	3	15
20	1	x	x	10	x	x	x	x	x	x
21	150 ⁽¹⁰⁾	x	3	15 ^{no}	x	x	x	x	x	x
22	8	x	3	15 ^{no}	x	x	x	x	x	x
23	1	x	x	8	x	x	x	x	x	x
24	x	x	x	5	x	x	x	x	x	x
25	30 ⁽⁵⁾	x	x	2	x	x	x	x	x	x
26	20 ⁽¹⁰⁾	x	x	2	x	x	x	x	1	x
27	250 ⁽⁵⁾	x	x	3	x	x	x	x	1	x
28	x	x	x	2	x	x	x	x	2	10
29	1	x	x	8	x	x	x	x	2	10
30	1	x	x	3	x	x	x	x	2	10
31	1	x	x	3	x	x	x	x	3	20
32	3	x	x	8	x	x	x	x	2	25

Results are semi-quantitative. Elements apparently present in concentrations of economic importance are listed in brackets.

055

Semi-Quantitative Spectrographic Analysis

280056

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 444471

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No.	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	V (10)
55	1	X	X	5	X	X	X	X	3	20
56	1	X	X	8	X	X	X	X	5	20
60	1	X	X	8	X	X	X	X	3	15
61	1	X	X	5	X	X	X	X	5	20
62	1	X	X	10	X	X	X	X	3	20
63	5	X	X	10	X	X	X	X	5	10
64	1	X	X	10	X	X	X	X	5	10
65	15 ^①	X	3	10	X	X	X	X	3	10
66	3	X	X	10	X	X	X	X	3	15
67	1	X	X	10	X	X	X	X	3	15
68	3	X	3	15 ^{NO}	X	20	X	X	3	30
69	2	X	X	15 ^{NO}	X	20	X	X	2	30
70	2	X	X	20 ^①	X	X	X	X	2	30
71	2	X	X	10	X	X	X	X	3	40
72	1	X	X	10	X	X	X	X	2	30
73	3	X	X	10	X	20	X	X	5	20
74	8	X	3	10	X	X	X	X	5	15
75	10	X	3	10	X	X	X	X	5	10
76	8	X	3	8	X	X	X	X	2	10
77	10	X	3	8	X	X	X	X	2	10
78	8	X	X	8	X	X	X	X	2	10
79	5	X	3	5	X	X	X	X	3	10
80	5	X	X	8	X	X	X	X	2	10
81	X	X	3	5	X	X	X	X	2	15
82	1	X	X	5	X	X	X	X	2	15

Results are semi-quantitative. Elements apparently present in concentrations of economic importance are indicated by X.

056

280057

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 4-1-1-1111

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	V (10)
33	1	x	x	3	x	x	x	x	1	10
34	3	x	x	10	x	x	x	x	x	10
35	1	x	x	10	x	40 ⁽¹⁾	x	x	x	x
36	2	x	3	8	x	x	x	x	1	20
37	20 ⁽¹⁾	x	x	15 ^{no}	x	40 ⁽¹⁾	x	x	2	30
38	1	x	x	20 ⁽¹⁾	x	20	x	x	1	80
39	1	x	x	8	x	x	x	x	x	x
40	1	x	x	5	x	x	x	x	1	10
41	1	x	x	8	x	x	x	x	1	x
42	1	x	x	5	x	x	x	x	1	x
43	10	x	3	10	x	x	x	x	2	x
44	200 ⁽¹⁾	x	x	10	x	x	x	x	5	15
45	8	x	3	10	x	x	x	x	3	10
46	80	x	3	10	x	x	x	x	5	10
47	3	x	3	15 ^{no}	x	20	x	x	10	100
48	1	x	x	20 ⁽¹⁾	x	x	x	x	10	80
49	8	x	x	20 ⁽¹⁾	x	100 ⁽¹⁾	x	x	10	60
50	5	x	x	20 ⁽¹⁾	x	x	x	x	10	60
51	3	x	x	10	x	x	x	x	8	15
52	3	x	3	15 ^{no}	x	x	x	x	5	10
53	8	x	x	10	x	x	x	x	5	10
54	20	x	x	10	x	x	x	x	8	20
55	15	x	x	10	x	x	x	x	5	10
56	5	x	x	8	x	x	x	x	2	10
57	1	x	x	3	x	x	x	x	5	20

Results are semi-quantitative. Elements apparently present in concentrations of economic

057

Semi-Quantitative Spectrographic Analysis

280058

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 449-1171

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Bc (1)	✓ (10)
84	3	x	x	8	x	x	x	x	3	10
85	1	x	x	5	x	x	x	x	3	20
86	1	x	x	5	x	x	x	x	2	10
87	x	x	3	5	x	x	x	x	2	x
88	x	x	x	3	x	x	x	x	1	10
89	x	x	3	5	x	x	x	x	1	10
90	1	x	3	5	x	x	x	x	1	x
91	1	x	5 ^①	3	x	x	x	x	1	x
92	1	x	x	3	x	x	x	x	1	x
93	3	x	x	5	x	x	x	x	1	x
94	3	x	x	8	x	x	x	x	1	x
95	x	x	x	5	x	x	x	x	1	x
96	x	x	3	5	x	x	x	x	1	40
97	1	x	x	10	x	x	x	x	x	10
98	1	x	x	5	x	x	x	x	x	x
99	1	x	x	8	x	x	x	x	1	30
100	15 ^①	x	3	8	x	x	x	x	3	30
101	x	x	x	8	x	x	x	x	3	30
102	x	x	x	8	x	x	x	x	3	30
103	1	x	x	10	x	20	x	x	3	x
104	1	x	3	3	x	x	x	x	3	x
105	x	x	x	3	x	x	x	x	2	x
106	x	x	x	10	x	x	x	x	2	x
107	x	x	x	5	x	x	x	x	2	x
108	3	x	x	10	x	x	x	x	1	10

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be rechecked by a more accurate method.

058

280059

Semi-Quantitative Spectrographic Analysis

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

x = not detected at the limits quoted

REPORT AN 4494/71

91

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	V (10)
108	x	x	3	3	x	x	x	x	1	10
109	x	x	3	5	x	x	x	x	x	10
110	x	x	3	8	x	20	x	x	x	10
111	x	x	x	5	x	x	x	x	1	10
112	x	x	3	3	x	x	x	x	1	10
113	x	x	x	10	x	20	x	x	1	10
114	x	x	x	10	x	x	x	x	1	10
115	x	x	x	8	x	x	x	x	2	x
116	x	x	x	8	x	x	x	x	x	10
117	x	x	x	10	x	x	x	x	x	10
118	x	x	x	10	x	x	x	x	x	10
119	2	x	3	8	x	x	x	x	1	10
120	x	x	3	5	x	x	x	x	1	10
121	x	x	3	5	x	x	x	x	1	20
122	5	x	x	8	x	x	x	x	1	10
123	1	x	x	8	x	x	x	x	2	10
124	15	x	x	8	x	x	x	x	1	10
125	1	x	x	8	x	x	x	x	2	10
126	x	x	3	10	x	x	x	x	2	30
127	x	x	x	5	x	x	x	x	1	10
128	x	x	x	5	x	x	x	x	2	15
129	x	x	x	8	x	x	x	x	1	15
130	x	x	x	3	x	x	x	x	2	20
131	x	x	3	5	x	x	x	x	1	15
132	x	x	3	5	x	x	x	x	3	10

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be rechecked.

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample	Sn (1)	W (50)	Mo (3)	Cu (0.5)	Sb (30)	Zn (20)	As (50)	Au (3)	Be (1)	V
13	3	x	x	10	x	x	x	x	3	10
174 B	100 (1)	x	x	15 (1)	x	40 (1)	x	x	3	10
155 D	1	x	5 (1)	10	x	x	x	x	3	15
136 B	3	x	10 (1)	3	x	x	x	x	1	x
137	SAMPLE NOT RECEIVED									
138 D	x	x	x	20 (1)	x	x	x	x	2	x
139	1	x	x	3	x	x	x	x	1	x
140	x	x	x	3	x	x	x	x	3	10
141	1	x	x	5	x	x	x	x	3	20
142(a)	x	x	x	3	x	x	x	x	3	15
142(b)	x	x	3	3	x	x	x	x	1	10
143	1	x	x	3	x	x	x	x	3	10
144	1	x	x	5	x	x	x	x	2	15
145(a)	1	x	x	5	x	x	x	x	1	x
145(b) B	1	x	15 (1)	5	x	x	x	x	x	x
146 A	5	x	3	3	x	30 (1)	x	x	10	x
147 B	10	x	10,000	25 (1)	x	x	x	x	10	x
AI+A2 (166 x 10) = 1,660										

Form 25 Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Co (5)	Ni (5)	Cr (20)	V (10)	W (50)	Mo (3)	Mn (10)	Ta (100)	Nb (20)	Be (1)	Th (100)
1	UB1	10	30	100	40	x	3	300	x	x	3	x
2	2	10	10	80	40	x	3	250	x	x	3	x
3	3	5	10	80	30	x	x	250	x	x	3	x
4	4	5	15	60	30	x	x	200	x	x	3	x
5	5	5	10	40	20	x	3	120	x	x	3	x
6	6	5	10	80	40	x	3	200	x	x	3	x
7	7	5	15	60	40	x	x	250	x	x	3	x
8	8	10	15	80	40	x	x	300	x	x	3	x
9	9	10	20	100	60	x	x	300	x	x	3	x
10	10	10	20	80	80	x	x	400	x	x	3	x
11	11	20	30	100	150	x	x	600	x	x	3	x
12	12	10	30	80	120	x	3	250	x	x	3	x
13	13	20	30	100	100	x	3	350	x	x	3	x
14	14	30	30	120	120	x	3	400	x	x	1	x
15	15	30	30	150	120	x	3	400	x	x	1	x
16	16	30	30	150	150	x	3	400	x	x	3	x
17	17	20	20	150	120	x	x	350	x	x	3	x
18	18	20	30	150	100	x	3	600	x	x	3	x
19	19	20	20	120	100	x	3	600	x	x	3	x
20	20	30	30	150	120	x	3	600	x	x	1	x

060

280061

① = no lines observed

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected

Form 25

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Co (5)	Ni (5)	Cr (20)	V (10)	W (50)	Mo (3)	Mn (10)	Ta (100)	Nb (20)	Be (1)	Th (100)
1	LIB 21	10	20	100	120	x	x	250	x	x	3	x
2	22	20	30	80	100	x	x	350	x	x	5	x
3	23	5	10	120	40	x	x	250	x	x	1	x
4	24	10	20	150	100	x	x	1,000	x	30	3	x
5	25	10	20	40	40	x	x	300	x	x	3	x
6	26	5	10	120	40	x	3	80	x	x	1	x
7	27	5	20	120	40	x	5	150	x	x	3	x
8	28	10	10	80	40	x	x	150	x	x	5	x
9	29	5	5	100	30	x	3	200	x	x	3	x
10	30	5	5	100	20	x	x	180	x	x	3	x
11	31	5	5	150	40	x	3	180	x	20	3	x
12	32	5	5	30	10	x	x	200	x	x	3	x
13	33	5	10	40	10	x	3	180	x	x	3	x
14	34	5	20	80	20	x	3	300	x	x	3	x
15	35	20	20	120	120	x	x	200	x	x	3	x
16	36	20	20	120	100	x	x	200	x	x	3	x
17	37	10	30	100	80	x	x	200	x	x	3	x
18	38	10	30	150	100	x	3	200	x	x	3	x
19	39	20	40	120	120	x	3	200	x	x	3	x
20	40	5	10	80	20	x	3	150	x	x	1	x

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected at limit stated.

061

280062

AMDEL ANALYTICAL SERVICE

JOB .5081171

Semi-Quantitative Spectrographic Analysis Scheme A1

BATCH ...3:.....

Form 25

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Co (5)	Ni (5)	Cr (20)	V (10)	W (50)	Mo (3)	Mn (10)	Ta (100)	Nb (20)	Be (1)	Th (100)
1	4B41	5	10	100	30	x	x	120	x	x	1	x
2	42	5	20	100	30	x	5	120	x	x	2	x
3	43	5	15	100	40	x	3	150	x	x	3	x
4	44	5	10	150	80	x	3	80	x	x	3	x
5	45	5	30	80	20	x	x	100	x	x	5	x
6	46	5	5	80	20	x	x	80	x	x	5	x
7	47	5	10	100	10	x	x	100	x	x	3	x
8	48	5	5	100	10	x	x	100	x	x	3	x
9	49	10	10	150	80	x	x	200	x	x	3	x
10	50	10	10	120	60	x	x	180	x	20	3	x
11	51	5	10	120	60	x	x	200	x	20	3	x
12	52	5	10	100	60	x	x	200	x	20	3	x
13	53	5	10	120	20	x	x	180	x	x	2	x
14	54	20	10	100	30	x	x	180	x	x	3	x
15	55	20	20	120	100	x	x	200	x	x	3	x
16	56	40	30	120	100	x	x	200	x	x	3	x
17	57	40	30	150	120	x	x	250	x	x	3	x
18	58	40	40	150	120	x	x	200	x	x	3	x
19	59	40	40	200	150	x	x	200	x	x	3	x
20	60	60	80	300	150	x	3	300	x	x	3	x

Results are semi-quantitative. Elements apparently present by ...

062

280063

AMDEL ANALYTICAL SERVICE

JOB 5081(7)

Semi-Quantitative Spectrographic Analysis Scheme A1

BATCH ...4.....

Form 25

Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No.	Co (5)	Ni (5)	Cr (20)	V (10)	W (50)	Mo (3)	Mn (10)	Ta (100)	Nb (20)	Be (1)	Th (100)
1 4861	40	60	150	150	x	x	250	x	x	3	x
2 62	30	40	120	120	x	x	350	x	x	3	x
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

063

280064

Results are semi-quantitative. Elements apparently present in concentrations of approximately 100 ppm.

Form 75

AMDEL ANALYTICAL SERVICE

JOB 508171

Semi-Quantitative Spectrographic Analysis Scheme A1

BATCH..5:.....

Results in p.p.m unless otherwise stated. Detection limits in brackets

Sample No.	Pt (10)	Pd (10)	Os (10)	Ir (2)	Rh (2)	Ru (2)						
1	UB1-710	x	x	x	x	x	x					
2	11-720	x	x	x	x	x	x					
3	21-730	x	x	x	x	x	x					
4	31-740	x	x	x	x	x	x					
5	41-750	x	x	x	x	x	x					
6	51-762	x	x	x	x	x	x					
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

084

280065

AMDEL ANALYTICAL SERVICE

JOB 508171

Semi-Quantitative Spectrographic Analysis Scheme A2

BATCH ...6.....

Form 23

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Cu (0.5)	Pb (1)	Zn (20)	Sn (1)	Cd (3)	Bi (1)	Ag (0.1)	Au (3)	Ga (1)	Ge (1)	As (50)	Sb (30)
1	UB1	5	5	x	x	x	x	x	x	15	x	x	x
2	2	8	3	x	x	x	x	x	x	10	x	x	x
3	3	5	5	x	x	x	x	x	x	10	x	x	x
4	4	5	3	x	x	x	x	x	x	10	x	x	x
5	5	3	5	x	x	x	x	x	x	10	x	x	x
6	6	5	3	x	x	x	x	x	x	10	x	x	x
7	7	10	5	x	x	x	x	x	x	10	x	x	x
8	8	10	5	x	x	x	x	x	x	15	x	x	x
9	9	5	10	x	x	x	x	x	x	20	x	x	x
10	10	10	3	20	x	x	x	x	x	5	x	x	x
11	11	10	5	20	1	x	x	x	x	8	x	x	x
12	12	10	5	x	x	x	x	x	x	10	x	x	x
13	13	10	5	20	x	x	x	0.1	x	10	x	x	x
14	14	15 ^{no}	5	x	x	x	x	x	x	20	x	x	x
15	D 15	15 ^{no}	3	30 ^o	x	x	x	x	x	5	x	x	x
16	16	15 ^{no}	5	20	x	x	x	x	x	8	x	x	x
17	17	10	3	20	1	x	x	x	x	20	x	x	x
18	D 18	20 ^o	5	20	1	x	x	0.1	x	20	x	x	x
19	D 19	20 ^o	5	x	1	x	x	0.1	x	30	x	x	x
20	D 20	20 ^o	3	x	x	x	x	x	x	20	x	x	x

085

280066

Results are semi-quantitative. Elements apparently absent.

JOB 5081171
Form 23

AMD ANALYTICAL SERVICE

Semi-Quantitative Spectrographic Analysis Scheme A2

BATCH 7:.....

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Cu (0.5)	Pb (1)	Zn (20)	Sn (1)	Cd (3)	Bi (1)	Ag (0.1)	Au (3)	Ga (1)	Ge (1)	As (50)	Sb (30)
1	4821 D	30	15	x	1	x	x	0.1	x	20	x	x	x
2	22 D	30	10	x	1	x	x	0.1	x	30	x	x	x
3	23	3	8	x	x	x	x	x	x	10	x	x	x
4	24	3	8	x	1	x	x	x	x	10	x	x	x
5	25	3	8	x	3	x	x	0.1	x	20	x	x	x
6	26	3	8	x	x	x	x	x	x	20	x	x	x
7	27 D	5	8	x	x	x	x	x	x	15	x	x	x
8	28	5	8	x	x	x	x	x	x	10	x	x	x
9	29	3	20	x	x	x	x	x	x	10	x	x	x
10	30	3	10	x	x	x	x	0.1	x	15	x	x	x
11	31	5	5	x	x	x	x	x	x	10	x	x	x
12	32	5	10	x	x	x	x	x	x	15	x	x	x
13	33	5	10	x	x	x	x	x	x	20	x	x	x
14	34	5	15	x	x	x	x	x	x	20	x	x	x
15	35	10	8	20	1	x	x	x	x	30	x	x	x
16	36	8	5	20	1	x	x	x	x	20	x	x	x
17	37	10	5	20	1	x	x	x	x	30	x	x	x
18	38	10	3	x	1	x	x	x	x	10	x	x	x
19	39	10	8	x	1	x	x	0.1	x	15	x	x	x
20	40	5	10	x	x	x	x	x	x	10	x	x	x

Results are semi-quantitative. Elements apparently present in concentrations of economic interest.

060

280067

ANDEL ANALYTICAL SERVICE

JOB 508171

Semi-Quantitative Spectrographic Analysis Scheme A2

BATCH ... 8:

Form 23

Results in ppm unless otherwise stated. Detection limits in brackets.

	Sample No.	Cu (0.5)	Pb (1)	Zn (20)	Sn (1)	Cd (3)	Bi (1)	Ag (0.1)	Au (3)	Ga (1)	Ge (1)	As (50)	Sb (30)
1	LB41	3	10	x	x	x	x	x	x	10	x	x	x
2	42 ^D	8	10	x	x	x	x	x	x	10	x	x	x
3	43	3	10	x	1	x	x	0.1	x	15	x	x	x
4	44	5	20	x	1	x	x	0.1	x	30	x	x	x
5	45	5	20	x	1	x	x	0.1	x	30	x	x	x
6	46	3	15	x	1	x	x	x	x	10	x	x	x
7	47	5	10	x	1	x	x	x	x	10	x	x	x
8	48	3	10	x	1	x	x	x	x	8	x	x	x
9	49	5	10	20	1	x	x	x	x	10	x	x	x
10	50	8	8	x	1	x	x	x	x	15	x	x	x
11	51	5	5	20	1	x	x	0.1	x	5	x	x	x
12	^D 52	5	5	30	1	x	x	x	x	5	x	x	x
13	53	8	5	20	x	x	x	x	x	5	x	x	x
14	^D 54	10	8	30 ^C	1	x	x	x	x	15	x	x	x
15	^D 55	15	5	30	x	x	x	x	x	15	x	x	x
16	^D 56	10	3	30	x	x	x	x	x	10	x	x	x
17	^D 57	40 ^C	5	40	1	x	x	x	x	15	x	x	x
18	58	10	8	20	1	x	1	x	x	30	x	x	x
19	^D 59	40 ^C	5	30 ^C	x	x	x	x	x	10	x	x	x
20	^D 60	40	5	40	1	x	x	x	x	10	x	x	x

Results are semi-quantitative. Elements apparently present

067

280068

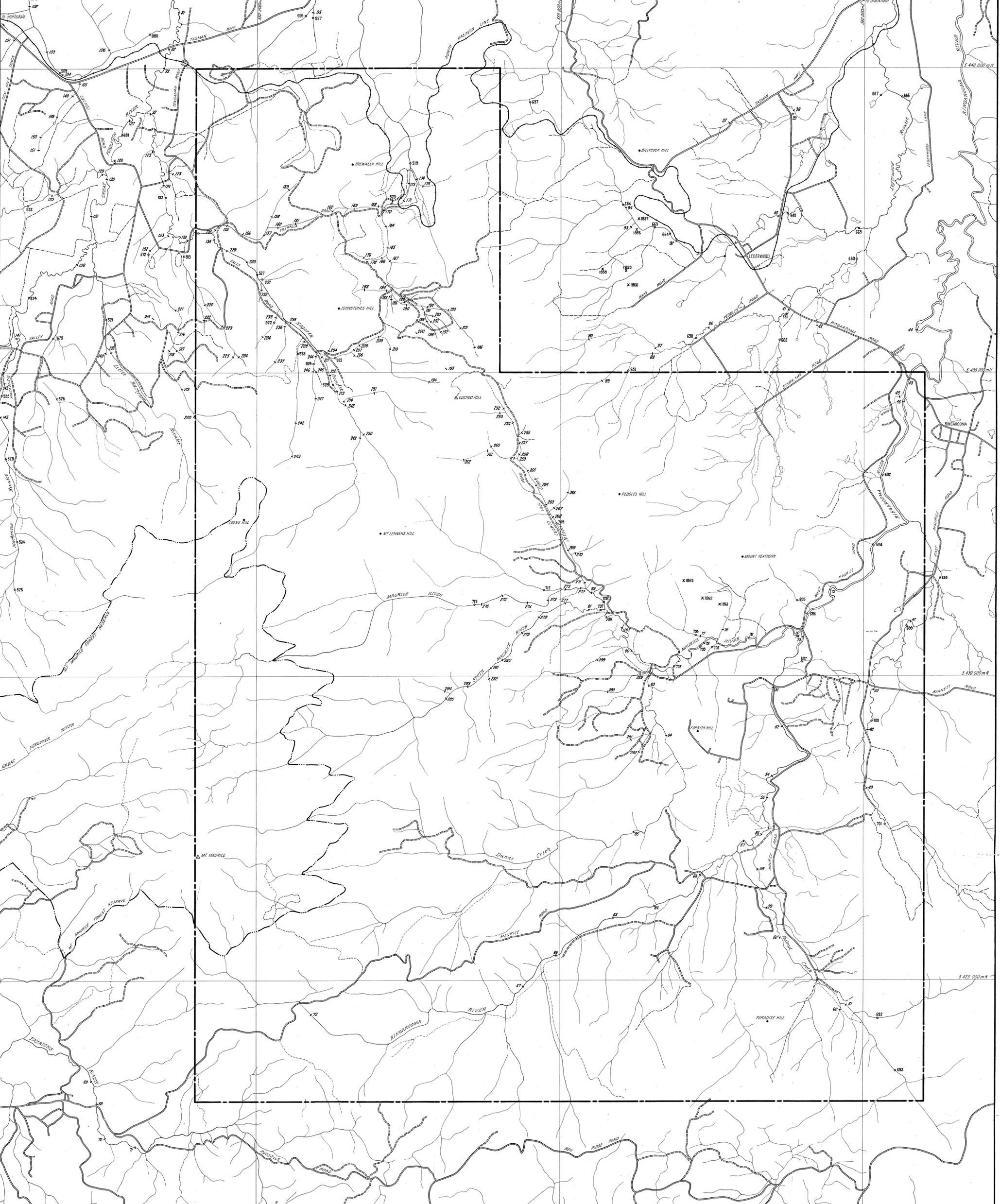
Results in ppm unless otherwise stated. Detection limits in brackets.

Sample No.	Cu (0.5)	Pb (1)	Zn (20)	Sn (1)	Cd (3)	Bi (1)	Ag (0.1)	Au (3)	Ga (1)	Ge (1)	As (50)	Sb (30)
1 UB 61 ¹	30	3	40	1	x	x	x	x	5	x	x	x
2 b2 ¹	30	3	60	1	x	x	x	x	5	x	*	x
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

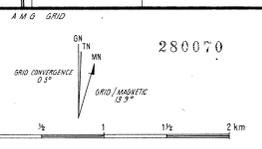
068

280069

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected



- Rivers and streams with dams
- Roads, minor roads
- Vehicular track, unspecified track, walking track
- Railway
- Forest Reserve boundary
- E.I. boundary
- Trig station, spot height
- Stream sediment sample location and number - Oceania Exploration Co.
- Stream sediment sample location and number - Union Corporation
- Rock chip sample location and number - Union Corporation



280070

CSR LIMITED-AMCD

E.L. 43/82 MT. MAURICE, N.E. TASMANIA

GEOCHEMISTRY
SAMPLE LOCATION PLAN

84-2283

SCALE	1:20,000	DRG No	
DRAWN	PDE / PR		
DATE	06/83		
REVISED			

K554-14