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THE MOUNT LYELL MINING AND RAILWAY COMPANY LIMITED

D of M	A.O.	C.G.	E.O.	D.S.M.E.
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EXPLORATION LICENCE 27/78 (TASMANIA)

DONALDSON

ALL MINERALS

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**MICROFILMED**

PROGRESS REPORT

JANUARY, 1981

M. J. HUTTON

Distribution:  
Mt. Lyell (2)  
Tas. Mines Dept. (1)

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S U M M A R Y

E.L.27/78, Donaldson, was granted on 22nd January, 1979, as an exploration lease for all minerals. The lease covers 172 sq. km in the vicinity of the Donaldson River, N. W. Tasmania.

Data compilation involved a review of past exploration by Renison and Esso, University of Tasmania mapping and airphoto interpretation.

A total of 71 stream sediment, soil and rock chip samples were collected from the Toner River and Sabbath Creek - Corinna areas, and assayed for Cu, Pb, Zn, Co, Mn, Ag, Fe, Sn, WO<sub>3</sub>, Mo, Au and S. No anomalous zones were detected but the sampling was not thorough enough to conclude that the area holds no potential for economic mineralization.

Total expenditure to date amounts to \$8,679.

1. INTRODUCTION

1.1 TENURE

E.L.27/78, Donaldson (all minerals) was granted on 22nd January, 1979. The lease covers 172 sq. km and is situated in the Donaldson River region of N. W. Tasmania (Fig. 1).

The lease was explored in conjunction with E.L.26/78, Pieman (precious stones); the bulk of the field work was conducted during March-April, 1980. Base camp was established at Corinna.

The area was thought to have potential for stratabound tin-tungsten-sulphide deposits (replacing dolomitic sequences) and strataform base metal deposits (associated with intermediate volcanics). Alluvial gold deposits were of secondary interest.

1.2 TOPOGRAPHY

The major topographic feature of E.L.27/78 is the Donaldson River which flows roughly southwards into the Pieman River about 6 km downstream from Corinna. Savage River cuts across the south-east corner of the lease.

Most of the area is covered with mature eucalyptus and myrtle forests which have been exploited for timber. The north-west portion, around Toner River and Mt. Vero, is covered with button-grass and low scrub.

Resistant ridges of quartzite rise sharply from flat plains underlain by shales and dolomites. In the south-east portion rapid erosion by the major streams has deeply dissected flat-topped ridges which were once a Tertiary peneplain.

1.3 ACCESS

The major access route to the area is a gravel road from Savage River to Corinna. Logging tracks, accessible to four-wheel-drive vehicles, lead from this road to the banks of the Savage River and Sabbath Creek. A helicopter was utilized to gain access to the Toner River and Longback Creek areas.

1.4 PREVIOUS EXPLORATION

Attention was drawn to the area in the early 1880's following the discovery of alluvial gold in Middleton Creek. Gold was sluiced from several creeks in the area, more notably Middleton Creek, Sabbath Creek, Savage River, Whyte Creek and the terraces of gravels which occur at several levels in the major river valleys. The township of Corinna was the main depot for the gold field.

Furing 1907-11 T. B. Moore led a Mt. Lyell exploration party which examined occurrences of copper mineralization in the Toner River - Mt. Hadmar, Norfolk Range and Balfour areas. The mineralization was reported to contain pyrite-chalcopyrite with minor bornite, chalcocite, tenorite and native copper, primarily aligned along shear zones and other fractures in schists (Moore 1909-11). Grades in excess of 20% Cu were recorded for some samples but tonnages were not sufficient to warrant mining.

During the late 1950's and early 1960's Department of Mines and University of Tasmania geologists conducted mapping programmes in the Corinna-Zeehan-Pieman Heads area (e.g. Spry and Ford, 1957).

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Pickands Mather and Company International (P.M.I.) conducted regional stream sediment sampling programmes over much of the West Coast in the early 1960's but do not appear to have followed up anomalies detected in the Corinna area.

Between December 1970 and December 1972 the area was covered by E.L.'s 48/70 and 49/70, both of which were explored under a joint venture agreement between Australian Consolidated Industries (A.C.I.) and The Consolidated Syndicate (Mt. Lyell, Renison and C.G.F.A.). Apart from a regional aeromagnetic survey, with flight lines spaced at approximately 650 m, the work concentrated on tin and tungsten prospects associated with the coastal granitic intrusives.

Esso Australia Ltd. took up the area, under E.L.2/73, in January 1973. Geoterrex operated an airborne magnetic and electromagnetic (INPUT) survey over E.L.2/73 in March 1973. Several "high quality" E.M. responses were produced by black shales in a north-trending zone within Precambrian sediments (Neale, 1974). Most of these anomalies were checked on the ground.

1.5 GEOLOGICAL SETTING

E.L.27/78 is underlain by the Rocky Cape Group, a sequence of unmetamorphosed Precambrian sediments, intermediate to basic volcanics and dolerite intrusives (Figs. 2, 3). Spry and Ford (1957) and Spry (1964) mapped the sequence in the Corinna-Zeehan-Pieman Heads region but the remainder of E.L.27/78 has been poorly mapped.

The stratigraphic succession revealed along the Pieman River is as follows (Spry, 1964):

- Top Savage Dolomite
- Delville Chert
- ? Unconformity
- Bernafai Volcanics
- Corinna Slate
- Donaldson Group
- Interview Slate and Quartzite
- Oonah Quartzite and Slate

Igneous rocks include: Precambrian dolerite dyke swarms, mainly occurring intrusive into the Interview Slate and Quartzite; Devonian granitic intrusives, which are found in a belt along the coast and as a large batholith in the Mt. Meredith Range; Tertiary basalts, which, along with Tertiary gravel deposits, occur in patches along ridge tops.

The only recorded mineralization in the area is the structure-controlled pyrite-chalcopyrite deposits in the Toner River area. They occur in E-W oriented shear zones, sometimes associated with extensive quartz veining, within slates and siltstones of the Interview Slate and Quartzite. Neale (1974) also reports ubiquitous pyrite in black slates of the same formation.

Structural elements trend roughly NE in the southern part of the lease, and NNE in the northern part. The Interview Slate and Quartzite forms a broad anticline but cleavage is related to minor folds which are not genetically related to the major structure (Spry, 1964). The Corinna Slate and succeeding formations occur in a faulted block between the Donaldson Group (to the west) and the metamorphosed Whyte Schist (to the east). The Corinna Slate occurs in the core of an anticline, flanked by Bernafai Volcanics. The Savage Dolomite occurs in a synclinal structure (Fig. 4).

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## 2. EXPLORATION COMPLETED 1978-80

### 2.1 GEOLOGY

Because of the scarcity of outcrop the area was not thoroughly mapped. Outcrop details were recorded during the stream sediment sampling programme.

Spry's (1964) interpretation map was used as the geological base for the exploration programme. This was amended by airphoto interpretation (F 598, Burnie Concession, 1:15,000, colour photos) and the minor amount of geological mapping.

Massive grey to cream dolomite was found in the bed of Sabbath Creek, east of the Mt. Donaldson Range. In places the dolomite contained small lenses of pyrite. One 1.2 m thick lens of massive pyrite was associated with nearby float of gossanous ironstone which was traced along strike for about 100 m. In Guthrie Creek, about 300 m upstream from the Savage River, dolomite was found faulted against pyritic black shales which probably belong to the Donaldson Group. Occasional black siliceous bands in the shales resemble the Delville Chert.

Near Doodie Creek Bernafai Volcanics are well exposed along the banks of the Savage River and in road cuttings nearby. Although primary textures are virtually destroyed by a strong foliation and alteration the rock resembles a green fine-grained andesite with small elongated phenocrysts of plagioclase and mafic minerals replaced by chlorite. In nearby stream sediments light green epidote is common.

Further north near Timb's Creek a 10 m waterfall consists of a grey slate or fine-grained tuff which contains large (up to 20 cm) angular clasts of a light green volcanic which also contain disseminated blebs of pyrite-pyrrhotite.

Between these two occurrences Delville Chert float was found on the west bank of the Savage River.

### 2.2 GEOCHEMISTRY

#### 1. Introduction

During 1978-80 34 stream sediment, 24 soil and 13 rock chip samples were assayed for Cu, Pb, Zn, Co, Mn,  $\pm$ Ag, Fe, Sn,  $WO_3$ , As, Mo, Au, S. Most samples came from the southern portion of the lease, between Corinna and Sabbath Creek. A few old prospectors' workings in the Toner River were also chip sampled.

#### 2. Stream Sediments

Of the 34 stream sediment samples collected, 11 came from the Toner River area and 23 from the southern portion of the lease. The fractions assayed were:

- 80# Total extraction (Tx)
- 80# Cold extraction (Cx)
- 10#+80# Hydroxylamine-HCl digestion (H/H).

The samples were assayed for Cu, Pb, Zn, Mn, Fe, Co, Sn, As,  $WO_3$  and Mo. Three panned concentrate samples collected for the E.L.26/78 programme were also assayed for Sn, As,  $WO_3$  and Mo.

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Background Tx values were 15 ppm Cu, 15 ppm Pb, 30 ppm Zn, 100 ppm Mn, 5 ppm Co, 25 ppm Sn, 20 ppm As, 20 ppm WO<sub>3</sub> and 25 ppm Mo.

There were no strongly anomalous samples, highest values obtained were 95 ppm Cu, 70 ppm Pb, 180 ppm Zn, 1250 ppm Mn, 50 ppm Co, 50 ppm Sn, 45 ppm As, 40 ppm WO<sub>3</sub> and 70 ppm Mo. Samples from creeks draining the Bernafai Volcanics showed higher backgrounds for Cu (60 ppm) and Zn (70 ppm),

3. Soils

23 soil samples were collected from the Sabbath Creek area: 18 from a track cut up the northern side of the valley to a circular airphoto feature and 5 from an area near an out-cropping lens of massive pyrite in dolomite.

The samples were sieved to -80# and assayed for Cu, Pb, Zn, Ag, Mn, Co, Sn, As, WO<sub>3</sub> and Mo (Appendix B). The only assays of note came from a 125 m wide zone along the cut track underlain by what appeared to be a weathered intermediate volcanic. Highest values were 154 ppm Cu, 130 ppm Pb, 106 ppm Zn, 2 ppm Ag, 35 ppm Sn, 60 ppm As, 40 ppm WO<sub>3</sub> and 50 ppm Mo.

4. Rock Chips

7 rock chip samples came from the Toner River workings and 6 came from the southern portion of the lease. They were assayed for Cu, Pb, Zn, Ag, Au, S, Mn, Co, Fe, ±Sn, As, WO<sub>3</sub> and Mo (Appendix C).

The Toner River samples were either random mine dump and trench samples (24692, 24693, 24695, 24698) or picked samples of mineralization (24694, 24696, 24699). Sample 24696 came from a 5 cm wide lens of pyrite-chalcopyrite in the E wall of a N trending trench at the Copper Reward workings. It returned values of 12.2% Cu, 37 ppm Ag, 2.5 ppm Au and 22.3% S. The random dump samples averaged about 1.25% Cu, 6 ppm Ag, <0.1 ppm Au and 1.6% S.

All other samples gave insignificant assays.

3. CONCLUSIONS

Exploration completed on E.L.27/78 during 1978-80 failed to detect any anomalous zones which may be due to economic mineralization. However, exploration to date has not been very thorough; most field work was aligned towards the E.L.25/78 programme. More attention could be paid to the dolomitic sequences near Sabbath Creek and the Bernafai Volcanics near the Savage River.

The copper mineralization near Toner River is not likely to prove to be economic at depth. Surface indications suggest that it is patchy and localised along structural elements. The surface exposures were thoroughly examined by T. B. Moore during 1907-11 and Esso's INPUT survey failed to obtain any response, despite the fact that such mineralization is usually conductive.

4. EXPENDITURE

Table 1 lists the total expenditure on E.L.27/78 during the period 1978-81.

TABLE 4  
E.L.27/78 EXPENDITURE 1978-81

Salaries and Wages	\$3,899	44.9%
Burden Charges	1,627	18.8
Access	924	10.6
Geochemistry	435	5.0
Materials	417	4.8
Equipment and Facilities	259	3.0
General Costs	685	7.9
Indirect Costs	<u>433</u>	<u>5.0</u>
 TOTAL	 <u>\$8,679</u>	 <u>100.0%</u>

5. REFERENCES

- MOORE, T. B. (1909-11): Fortnightly reports to General Manager, The Mount Lyell Mining and Railway Company Ltd.
- NEALE, R. C. (1974): Exploration Licence 2/73, Pieman River, Tasmania. Completion Report. Esso Aust. Ltd.
- SPRY, A. (1964): Precambrian rocks of Tasmania, Part VI, the Zeehan-Corinna area. Pap. & Proc. Roy. Soc. Tas., 98. 23-48.
- , and FORD, R. (1957): A reconnaissance of the Corinna-Pieman Heads area - Geology. Pap. & Proc. Roy. Soc. Tas., 91. 1-7.

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APPENDIX A - DONALDSON STREAM SEDIMENTS

006011

SAMPLE NUMBER	-80# Tx. Values in ppm unless otherwise indicated									% Fe
	Cu	Rb	Zn	Mn	Co	Sn	As	WO <sub>3</sub>	Mo	
24645	6	10	5	-	-	-	-	-	25	0.3
24646	18	20	60	210	10	35	35	20	10	2.0
24647	7	10	40	30	-	20	40	-	15	0.5
24648	12	40	100	260	25	30	20	40	20	2.9
24649	14	30	65	280	15	10	15	-	30	2.3
24654	33	30	160	120	25	25	5	-	20	2.8
24655	17	10	65	250	25	50	40	-	45	2.1
24657	18	10	11	80	-	20	-	20	55	1.0
24659	15	10	58	210	-	15	35	-	35	1.5
24661	8	10	17	120	-	25	25	-	45	0.4
24662	50	30	65	620	25	25	25	-	70	3.2
24663	55	20	58	820	50	30	35	-	40	4.6
24666	57	10	49	580	30	25	15	40	55	3.9
24667	64	10	125	1250	30	30	-	-	25	4.8
24669	72	10	21	120	25	30	20	20	45	1.8
24670	10	-	22	600	10	15	20	-	15	1.9
24671	9	10	40	250	10	10	-	-	15	1.6
24697	7	-	-	110	-	35	-	-	5	0.5
25701	10	10	15	70	-	-	-	20	5	1.2
25702	11	-	12	70	-	10	10	-	5	0.8
25703	6	-	-	60	-	25	-	-	10	0.4
25704	5	10	-	60	-	25	30	-	20	0.4
25705	9	-	25	100	-	10	10	-	20	1.6
25706	7	10	10	70	-	25	5	-	15	0.8
25707	16	20	7	90	-	35	-	-	10	0.8
25708	12	20	8	60	-	30	-	-	15	0.5
25709	5	10	16	80	-	30	-	30	15	1.6
25710	-	10	6	70	-	30	5	-	10	1.1
25714	-	-	5	80	-	20	-	-	20	0.4
25719	95	70	180	870	45	35	45	30	10	4.65
25720	40	50	90	540	20	25	30	-	20	1.86
25723	70	10	60	1030	40	30	35	-	10	3.85

## APPENDIX A (cont.) - DONALDSON STREAM SEDIMENTS

006012

SAMPLE NUMBER	-80# Cx Values in ppm unless otherwise indicated						-10# + 80# H/H, ppm in solution			
	Cu	Pb	Zn	Mn	Co	Fe%	Zn	Mn	Fe	Co
24645	-	-	-	-	-	.19	.17	.50	28.0	-
24646	-	-	32	140	7	.22	.37	13.2	9.5	.17
24647	-	-	24	20	-	.16	1.08	.98	24.0	.17
24648	-	10	47	160	18	.22	.15	9.6	5.7	.13
24649	-	-	37	200	16	.35	.26	10.6	20.7	.26
24654	12	-	38	30	6	.29	1.06	5.36	40.0	.24
24655	-	-	10	160	10	.27	.35	21.7	24.9	.95
24657	-	-	-	20	-	.07	.28	4.21	24.7	.07
24659	-	-	15	170	-	.23	.28	19.2	8.8	.11
24661	-	-	9	120	-	.13	.47	23.5	6.6	.15
24662	-	-	17	500	13	.49	.36	80	15.4	.81
24663	7	-	12	460	17	.48	.19	130	8.4	1.53
24666	7	-	10	250	7	.23	.27	110	7.9	.81
24667	-	-	6	360	-	.24	.31	190	15.1	1.04
24669	36	-	-	40	11	.17	.19	4.3	28.6	.57
24670	-	-	-	340	-	.39	.17	64	19.9	.48
24671	-	-	12	190	6	.29	.11	19.5	3.8	.11
24679/97	-	-	-	-	-	.07	.01	.30	26.0	-
25701	-	-	-	-	-	.10	.33	.72	21.0	-
25702	-	-	6	-	-	.12	.32	.61	18.4	-
25703	-	-	-	-	-	.08	.10	.42	19.3	-
25704	-	-	-	-	-	.05	-	.12	16.0	-
25705	-	-	-	-	-	.11	.22	.40	18.7	-
25706	-	-	-	-	-	.12	.09	.45	16.7	-
25707	7	-	-	-	-	.19	-	.16	33.5	-
25708	22	60	27	-	-	.08	.16	.43	12.4	-
25709	-	-	-	-	-	.24	.11	.43	36.8	-
25710	-	-	-	-	-	.14	-	.32	22.0	-
25714	-	-	-	-	-	.09	.04	.22	26.8	-
25719	30	50	50	650	15	.57	.34	49	4.0	.17
25720	10	20	20	380	5	.30	.38	85	5.0	.32
25723	15	-	10	440	5	.22	.27	280	6.0	1.05

APPENDIX A (cont.) - DONALDSON STREAM SEDIMENTS

006013

- = Less than detection limit

Tx, Cx: Cu-5 ppm; Pb-10; Zn-5; Mn-10; Co-5; Sn-5; As-5;  $WO_3$ -20; Mo-10;  
Fe-0.01%

H/H: Zn-0.01 ppm; Co-0.01. All Cu and Pb values < 0.01 ppm for 20g  
in 40 ml.

## APPENDIX B - DONALDSON SOIL ASSAYS

006014

SAMPLE NUMBER	-80 <sup>#</sup> Tx. Values in ppm unless otherwise indicated									
	Cu	Pb	Zn	Ag	Mn	Co	Sn	As	WO <sub>3</sub>	Mo
24613	9	20	33	2	2900	45	-	10	-	15
24614	20	30	86	-	1.2%	40	15	-	-	15
24615	21	30	62	-	4700	25	-	30	-	30
24616	24	30	57	-	2.0%	40	35	20	-	40
24617	10	30	45	-	2200	50	5	25	40	30
24674 *	-	10	-	-	70	-	n.a.	n.a.	n.a.	n.a.
24675	-	20	14	-	110	-	n.a.	n.a.	n.a.	n.a.
24676	5	20	6	-	20	-	5	25	-	30
24677	91	50	36	-	380	25	10	25	20	50
24678	154	60	81	2	570	45	30	10	20	25
24679	127	130	92	2	400	45	10	30	-	5
24680	32	60	106	-	260	30	15	60	-	20
24681	144	50	64	-	310	35	10	25	-	10
24682	142	60	102	2	820	45	20	10	20	35
24683 *	13	10	16	-	50	-	5	30	-	20
24684	-	-	-	-	-	-	15	-	-	25
24685	-	10	-	-	20	-	-	-	-	25
24686	-	10	-	-	20	-	n.a.	n.a.	n.a.	n.a.
24687	43	10	17	-	50	10	n.a.	n.a.	n.a.	n.a.
24688	-	30	-	-	-	-	n.a.	n.a.	n.a.	n.a.
24689	-	10	-	-	-	-	n.a.	n.a.	n.a.	n.a.
24690	-	10	-	-	-	-	n.a.	n.a.	n.a.	n.a.
24691 *	-	10	-	-	10	-	n.a.	n.a.	n.a.	n.a.
25727	400	500	750	n.a.	200	40	n.a.	n.a.	n.a.	n.a.

\* = "A" horizon sample

n.a. = not assayed

- = Less than detection limit (Cu-5 ppm; Pb-10; Zn-5; Ag-2; Mn-10; Sn-10; As-5; WO<sub>3</sub>-20; Mo-10; Co-10).

24613 - 24617 come from the Sabbath creek area near an outcrop of massive pyrite lens in dolomite.

24674 - 24691 come from the access track cut from Sabbath Creek to an airphoto circular feature. The track was sampled at 25m intervals (24674 at 00 on the north bank of Sabbath Creek, 24691 at 425m).

## APPENDIX C - DONALDSON ROCK CHIPS

006015

SAMPLE NUMBER	Values in ppm unless otherwise indicated												
	Cu	Pb	Zn	Ag	Au	S%	Mn	Co	Fe%	Sn	As	WO <sub>3</sub>	Mo
24610	-	10	-	-	-	46.6	-	30	36.0	n.a.	n.a.	n.a.	n.a.
24611	25	90	10	-	-	0.2	1500	-	31.0	n.a.	n.a.	n.a.	n.a.
24612	460	20	35	0.3	-	0.3	1000	50	55.0	35	10	20	15
24668	430	20	100	0.2	-	0.1	740	80	8.5	n.a.	n.a.	n.a.	n.a.
24672	360	-	10	0.2	-	-	40	-	1.9	n.a.	n.a.	n.a.	n.a.
24692	0.12%	-	10	0.4	-	1.5	50	30	2.9	25	75	-	10
24693	1.50%	-	30	4.7	-	2.1	60	10	3.1	n.a.	n.a.	n.a.	n.a.
24694	6.40%	-	85	19	-	8.1	30	20	7.9	20	-	170	15
24695	1.06%	-	55	2.7	-	1.5	130	20	4.1	n.a.	n.a.	n.a.	n.a.
24696	12.2%	30	160	37	2.5	22.3	50	470	23.0	30	80	180	25
24698	2.32%	-	50	17	0.2	1.3	50	20	4.3	n.a.	n.a.	n.a.	n.a.
24699	6.0%	-	130	41	0.1	7.6	60	20	7.6	50	-	160	35
25713	360	30	45	-	-	4.2	90	50	5.0	n.a.	n.a.	n.a.	n.a.

- = Less than detection limit

Cu-10 ppm; Pb-10; Zn-10; Ag-0.1; Au-0.1; Mn-10; Co-10; Sn-5; As-5; WO<sub>3</sub>-20; Mo-5; S-0.1%; Fe-0.1%.

n.a. not assayed

24610 - Sabbath Creek. Pyrite lens in dolomite.

24611 - Sabbath Creek. Ironstone above 24610.

24612 - Sabbath Creek. Ironstone.

24668 - Savage River. Grey slate.

24672 - Savage River. Black shale

24692 - Toner River. Bulk dump at small trench.

24693 - Toner River. Copper reward shaft, bulk dump.

24694 - Toner River. Copper reward N-trench, picked dump.

24695 - Toner River. Copper reward N-trench, random chip.

24696 - Toner River. Copper reward N-trench, pyrite vein.

24698 - Toner River. Copper reward E-trench, bulk dump.

24699 - Toner River. Copper reward E-trench, picked dump.

25713 - Longback Creek. Pyrite black shale.

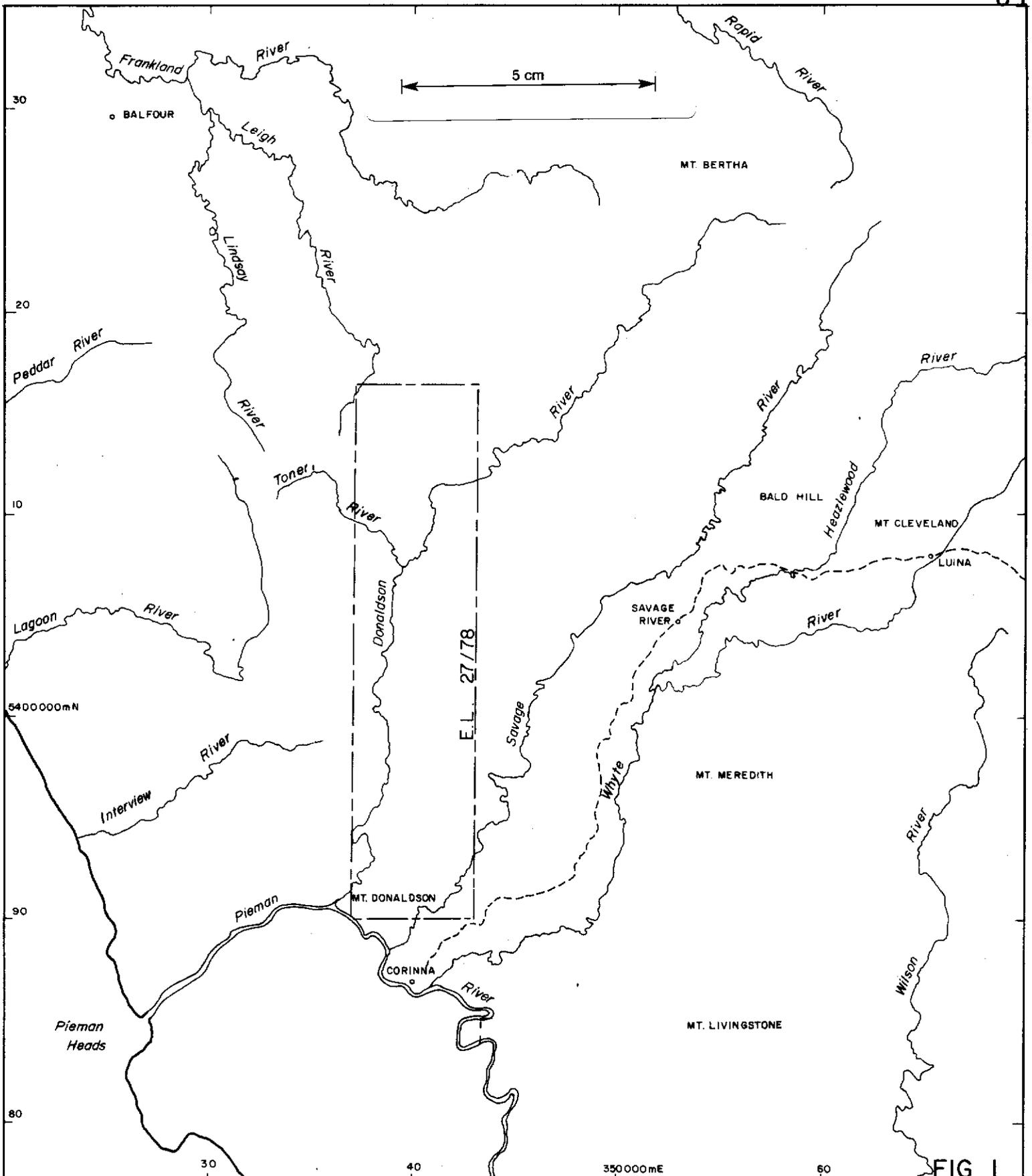
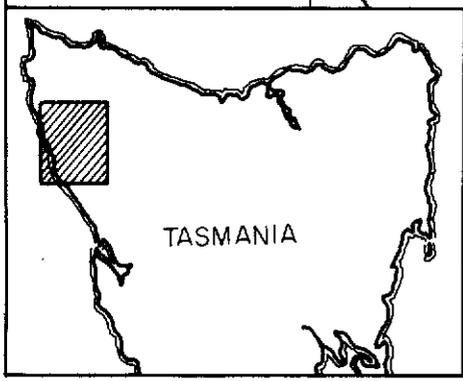


FIG I

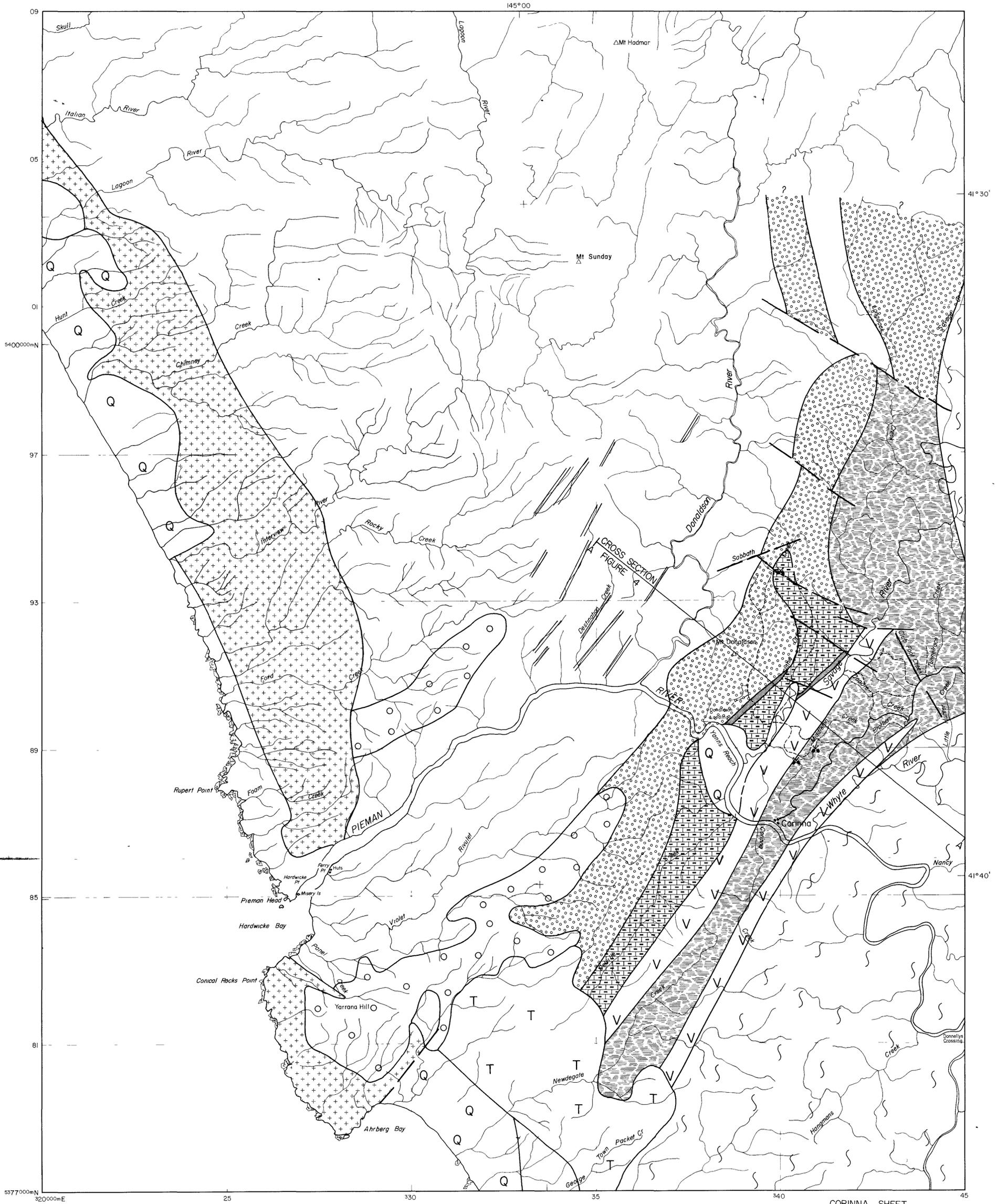


TASMANIA

81-1520

THE MOUNT LYELL MINING & RAILWAY Co. Ltd.		
EL 26/78		
DONALDSON		
LOCATION PLAN		
M. HUTTON	DRAFTSMAN: H. D. J.	A4 - II
SCALE: 1:250,000	DATE: 24-11-1980	

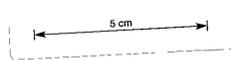
006016



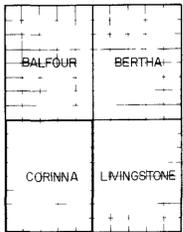
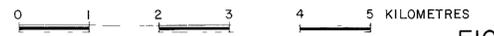
**LEGEND**

- |             |     |                              |
|-------------|-----|------------------------------|
| QUATERNARY  | Q   | Coastal sand dunes, alluvium |
| TERTIARY    | T   | Basalt                       |
|             | ○   | Gravels                      |
| DEVONIAN    | +   | Adamellite                   |
|             | ⊞   | Savage Dolomite              |
|             | ▨   | Delville Chert               |
| PRECAMBRIAN | V   | Bernafai Volcanics           |
|             | ▤   | Corinna Slate                |
|             | ▥   | Donaldson Group              |
|             | ▧   | Interview Slate & Quartzite  |
|             | ▨   | Whyte Schist                 |
|             | /// | Sodic Dolerite dyke swarm    |

- Four wheel drive tracks
- ✕ Alluvial gold workings



SCALE 1:50,000



**FIG 2**

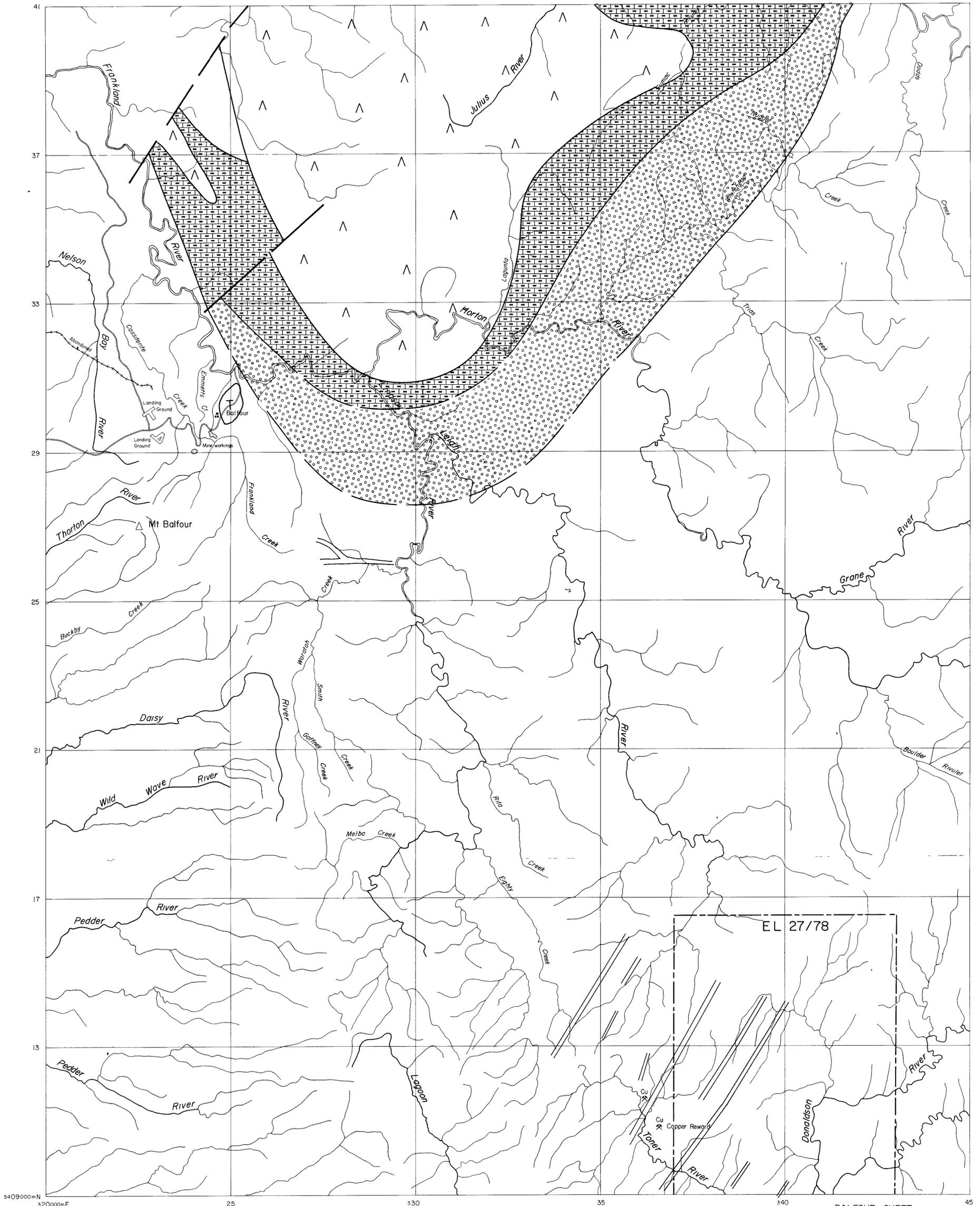
**MOUNT LYELL MINING & RAILWAY Co Ltd**

E L 27/78      006017

DONALDSON

INTERPRETIVE GEOLOGY

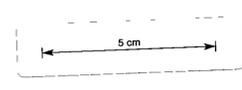
Date 15/1/81	Author M HUTTON	Drawn by P RIMMER	A1-9
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5409000mN 320000mE 25 330 35 340 BALFOUR SHEET 45

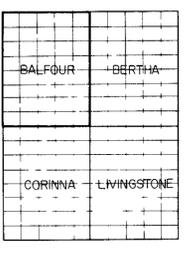
**LEGEND**

- |             |                      |                             |
|-------------|----------------------|-----------------------------|
| TERTIARY    | T                    | Basalt                      |
| CAMBRIAN    | Λ                    | Trough sediments, volcanics |
| PRECAMBRIAN | [Cross-hatched box]  | Smithton Dolomite           |
|             | [Dotted box]         | Sandstones, conglomerates   |
|             | [White box]          | Intervale Slate & Quartzite |
|             | [Diagonal lines box] | Sodic dolerite dyke swarm   |



✖ Old workings

SCALE 1:50,000  
0 1 2 3 4 5 KILOMETRES



**FIG 3**

**MOUNT LYELL MINING & RAILWAY Co Ltd**

EL 27/78      006018

DONALDSON

INTERPRETIVE GEOLOGY

Date 15/1/81	Author M HUTTON	Drawn by PRIMMER	A1-7
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GRID DENOTES 1:50000 MAP SERIES BASED ON 1000METRE INTERVALS OF THE AUSTRALIAN MAP GRID ZONE 55

NW

SE

DONALDSON RIVER

MT DONALDSON

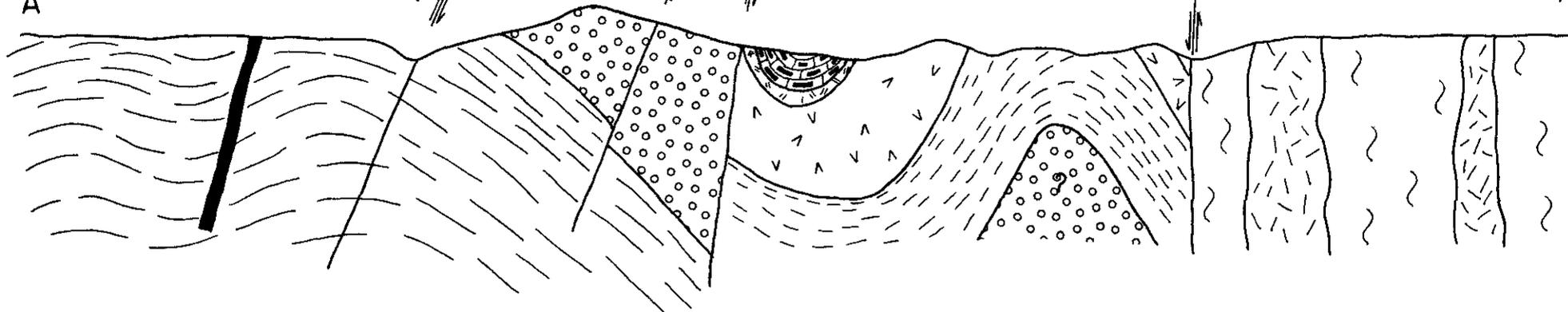
SAVAGE RIVER

CORINNA ROAD

WHYTE RIVER

A

A'



Savage Dolomite



Delville Chert



Bernafai Volcanics



Corinna Slate



Donaldson Group



Interview Slate



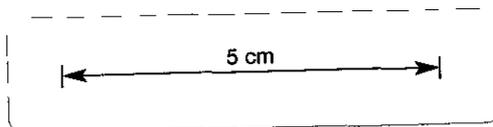
Whyte Schist



Amphibolite



Dolerite dyke



$$\frac{V}{H} = 1$$



KILOMETRES

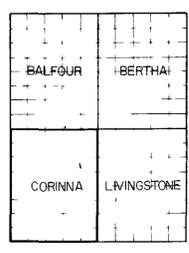
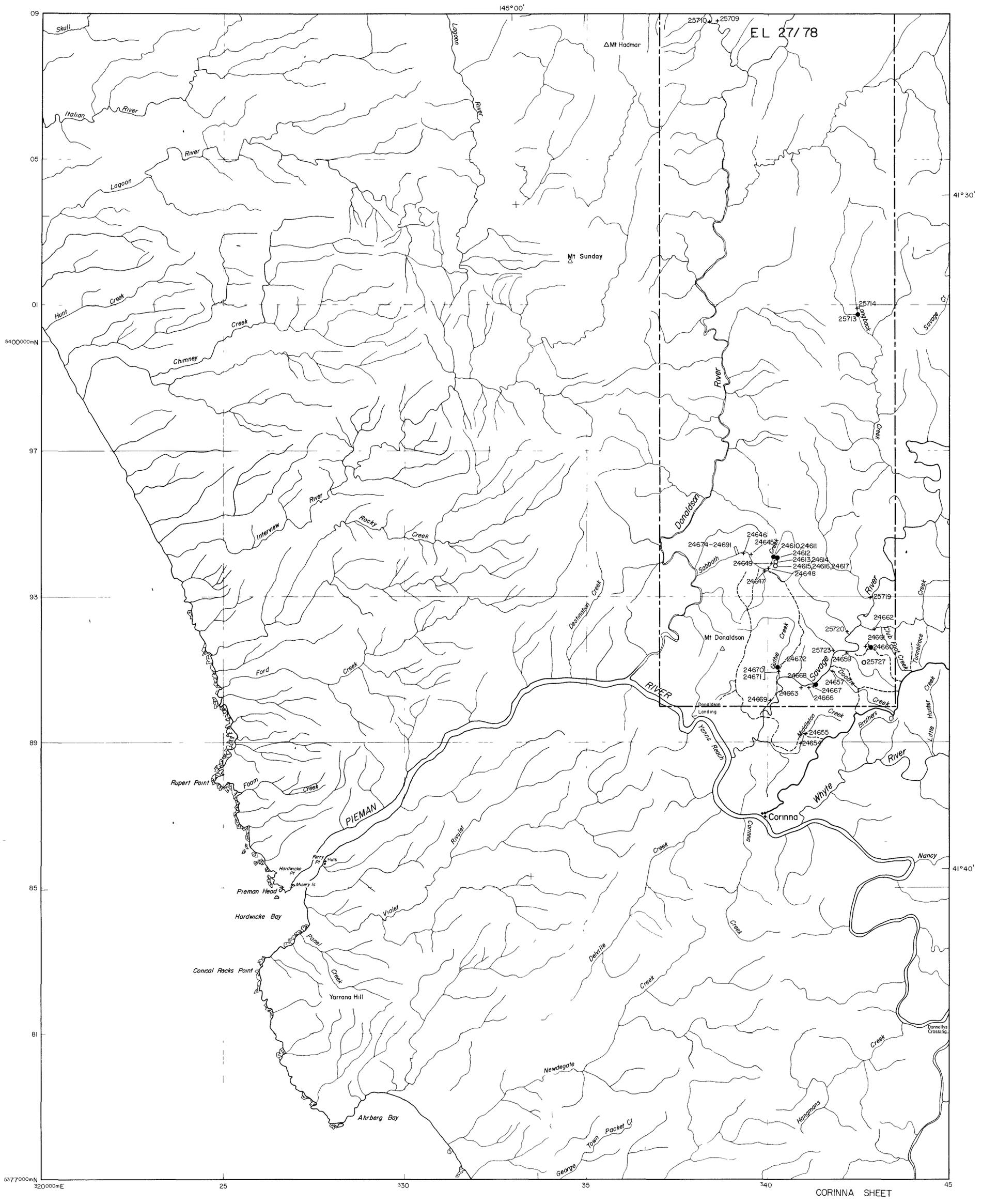
Diagrammatic section after Spry (1964)

FIG 4

THE MOUNT LYELL MINING & RAILWAY Co Ltd		
EL 27/78		
DONALDSON		
GEOLOGICAL CROSS SECTION		
M HUTTON	DRAFTSMAN P J R	A4-10
SCALE 1 250 000	DATE 19   1980	

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81-1520



- Lease boundary ————
- Stream sediment + 24697
- Soil sample O 24692
- Rock chip ● 24660

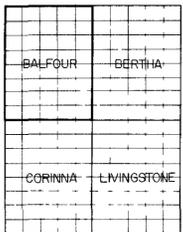
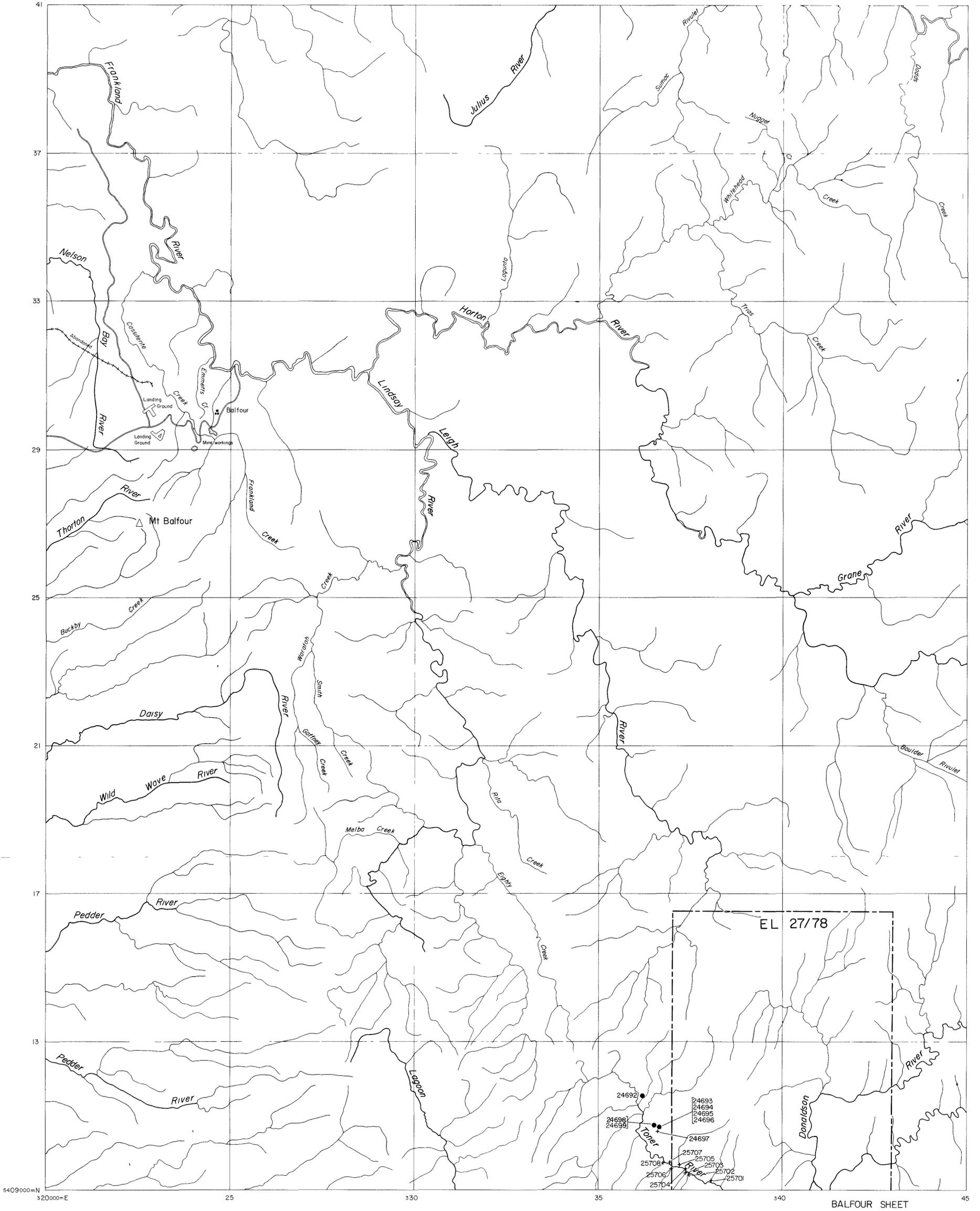


SCALE 1:50,000  
 0 1 2 3 4 5 KILOMETRES

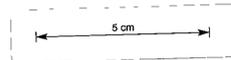
FIG 5

<b>MOUNT LYELL MINING &amp; RAILWAY Co Ltd</b>			
EL 27/78			
DONALDSON			
SAMPLE LOCATIONS			
Date 14/1/81	Author M HUTTON	Drawn by P RIMMER	AI-8

GRID DENOTES 1:50000 MAP SERIES BASED ON 1000 METRE INTERVALS OF THE AUSTRALIAN MAP GRID ZONE 55



- Lease boundary
- Stream sediment + 24697
- Rock chip ● 24692



SCALE 1:50,000  
0 1 2 3 4 5 KILOMETRES

FIG 6

<b>MOUNT LYELL MINING &amp; RAILWAY Co Ltd</b>	
EL 27/78	006021
DONALDSON	
SAMPLE LOCATIONS	
Date 14/1/81	Author M HUTTON
Drawn by P RIMMER	AI-6