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REF. No. 5658/85

PROJECT NAME: COMSTAFF PROPRIETARY LIMITED

TITLE: INTERIM REPORT

MT BLOCK

EL 5/63 AREA 3

OPEN FILE

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: 1:250 000 sheet Burnie SK 55-03

COMMODITY/IES: Cu, Pb, Zn, Ag, Au, Ba

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PLAN NOS: See List of Plans

TABLE NOS: -

APPENDICES: 1

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DATE: MARCH 1985

AUSTRALIAN ANGLO AMERICAN LIMITED

Incorporated in the State of Victoria

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COMSTAFF PROPRIETARY LIMITED

MOUNT BLOCK

EL 5/63 PART 3

1. SUMMARY

An exploration programme, consisting of soil sampling, heavy concentrate collection and geological mapping was completed over part of the Mt Read Volcanics in EL 5/63, Part 3.

The area covered lies between the Pinnacles and Que River Pb-Zn-Cu deposits.

Geological mapping of the tracks, ridges and creeks enabled the Mt Read Volcanics to be split into the Central Volcanic Sequence, consisting of massive porphyritic acid volcanics, fine grained ashes, lapilli tuffs and volcaniclastic breccias, and the Western Sequence consisting of volcanic derived shales, siltstones and sandstones. The lithologies tend to have a NE strike, and the contact between the two sequences is probably interdigitating. Minor basic dykes and flows occur in the Central Sequence.

No anomalies were defined by heavy concentrate sampling. Soil sampling defined one weak anomalous zone associated with rare sphalerite grains contained in shales of the Western Sequence.

Sufficient reconnaissance work has been carried out to show that the major part of the area looked at is unlikely to be prospective for near surface base metal sulphides. The weakly anomalous zone defined by soil sampling warrants further investigation to determine whether the trace base-metals is an inherent feature of the particular rocks or a result of leakage. The work is not regarded as being of high priority.

2. INTRODUCTION

2.1 General

This report relates to follow-up exploration carried out over the central portion of the Mt Block tenament EL 5/63, Part 3 (TAS/2/1586). The report describes the results of the mapping programme and the geochemical surveys.

2.2 Location and Access

EL 5/63, Section 3, is situated approximately 40 km SSE of Waratah (TAS/2/4136). A junction with an HEC transmission line track and the Murchison Highway, 1 km north of the Chester-Pinnacles access track, provides access into the southern part of the area. An HEC transmission line approach track, branching off from the Murchison Highway 2.4 km north of the Animal Creek bridge provides access into the northern part of the area.

2.3 Objectives

The area was chosen for follow-up work as a result of D Thynne's Mt Block Assessment Report (Thynne 1984). The objective was to further assess the prospectivity of the area for base metal sulphide deposits by trying to identify, using geology and geochemistry, similar lithologies that are hosting ore in the Pinnacles Area (EL 5/63, Section 4).

3. PREVIOUS WORK

1) ..."Blake (1928) described extensive deposits of "low-grade" barite in the Mt Block area around the mouth of Thunderbox Creek, but did not elaborate in terms of mass and quality".....(extract from Thynne, 1984).

2) Part of the Mt Block area was included in a regional stream sediment sampling and geological mapping programme during 1969/72. Geological mapping indicated an essentially acid volcanic sequence of lavas and intrusives. Geochemistry was not promising, and follow-up work on some anomalies did not reveal anything of significance (Thynne, 1984).

3) DAC grid, east of Mt Block proper, included 21.2 km of grid cut, geological mapping, geochemical and geophysical surveys. The area was found unprospective (Hall, 1979).

4) The Geological Survey Explanatory Report - Mackintosh Sheet 44, Zone 7, compiled by P Collins (1981), included the Mt Block-Mt Chester area but no detailed work was undertaken.

5) In 1981-82, Anderson (1982), sampled and mapped the southern section of Part 3, included was the area covered in the recent work. Two hundred and forty nine stream sediment samples were collected and analysed for Cu, Pb, Zn, Ni, Ba, Sn, Ag, Au and in some cases As and W. Results were generally low, the only values of significance in the area recently covered, were Ba values (up to 1093 ppm) in Thunderbox Creek. Anderson (1982) concluded that certain geological units caused slight enhancement of the geochemistry, and that there was nothing to suggest that significant mineralisation was present.

4. WORK COMPLETED

The field programme was carried out between October 1984 and December 1984.

4.1 Tracks

In total, 5020m of gravel roads were surveyed and 4220m of track was cut and surveyed along two major ridges in the area (TAS/2/4191). All tracks and roads were surveyed at 20m intervals using tape, compass and clinometer.

4.2 Geological Mapping

All roads and tracks were geologically mapped using surveyed points for control, included in the geological mapping was 2400m of stream traverses using survey points from the 1981-82 programme as control points. All the data was recorded at a scale of 1:5 000.

4.3 Geochemistry

A total of two hundred and forty four soil samples were collected from the C^{o} horizon along Mt Block ridge (154) and Kens Ridge/Grunt Rd/Chester Ridge (99). All soil samples were dried, pulverised and analysed by Analabs for Cu, Pb, Zn, Ba, Au.

Fifteen heavy concentrates were collected at major stream/tributary junctions. A 10 l bucket of gravel was collected at each site and sieved through an 0.5 cm sieve. Each sample was carefully panned down till enough material remained to fill a 100 ml bottle. The samples were sent to Amdel for Cu, Pb, Zn, Ba, Au analysis.

Twenty one rock chips representing main rock types were collected and analysed by Analabs for the same elements as above.

4.4 Petrology

Six rock chips were sent to CMS for petrological descriptions. (Rock descriptions are contained in Appendix 1, sample locations are shown on TAS/2/4191).

5. GEOLOGY

5.1 General

The rocks of the Mt Block area form part of the middle Cambrian Mt Read Volcanics (Corbett, 1981) which occur between the geosynclinal sediments of the Cambrian Dundas Group and the Pre Cambrian Tyennan Block of the Central Highlands. The MRV occupy a meridional belt 10-15 km wide extending some 160 km from Elliot Bay in the south to north of the Que River mine. The Mt Block tenament straddles the MVR near its northern end. Corbett 1981 subdivided the MRV into three units.

a) **Central Sequence,** essentially a sequence of rhyolites, dacite lavas and pyroclastic rocks with minor Andesites and basalts.

b) **Western Sequence.** This sequence is characterised by a higher proportion of volcanic derived sedimentary rocks. Tuff units and quartz porphyry intrusives are common.

c) **Eastern Sequence.** This sequence consists of mixed volcanics, volcaniclastic conglomerates and slates.

In the Mt Block area covered in the recent work, rocks of the Central Sequence and Western Sequence were identified.

5.2 Geology-Stratigraphy (refer TAS/2/4191, with following description)

In the area covered the rocks are almost exclusively volcanic in origin (Central Volcanic Sequence) apart from the NW corner where volcanic derived waterlain sediments of the Western Sequence occur. In most places the contact is inferred and most likely transitional. At 760m on Charter Rd and 500m on Grunt Rd, the rock types do not appear to be of a primary volcanic origin, and are probably western sequence rock types. The contact is disrupted in this area as a result of a granophyric intrusion.

The Central Sequence rocks form a complex succession of shallow intrusives/lavas, acid volcaniclastic breccias, porphyritic ashes and lapilli tuffs. The volcanic rocks vary in composition from rhyolite, trachyte to syenite, minor basic flows and dykes of gabbroic composition also occur.

The dominant rock type is a rhyolitic feldspar porphyry (RFP) which occurs in the southern part of the area. RFP consists of altered feldspar and rare quartz phenocrysts in a fine grained, commonly devitrified quartzofeldspathic groundmass. Weathered samples exhibit a light green to pink colouration, fresher samples are a darker grey, quartz filled fractures and chloritic patches are pervasive.

On the summits of Mt Block and Bulgobac Hill the RFP is red-brown in colour and very hard due to silicification caused by deuteric effects. The RFP is extensively and randomly jointed. At the 1800m mark on Mt Block Ridge possible columnar jointing was observed.. Anderson (1982) noted evidence of flow banding (supported by petrological analysis) in areas of Animal Creek.

The RFP in places (Thunderbox Creek and especially Le Gopner Creek) has been explosively brecciated. The angular/subangular clasts vary in size from 1cm x 1cm to 50cm x 30cm. The brecciated RFP has been infilled by dark green chloritic/quartz material. The chlorite/quartz has not significantly altered the clasts to any degree.

Around the vicinity of the Thunderbox Creek/Animal Creek Junction,lower reaches of Animal Creek and along parts of Mt Block, Kens and Charter roads, shallow intrusives and/or lavas of trachytic composition were observed in outcrop. The unit in the field has a porphyritic appearance with white or pink feldspars set in a green groundmass. Petrological analysis describes the feldspars as albite, which along with fine scale quartz amygdales are set in a groundmass of fine K-feldspar clouded with albite microlites which has been prevasively chlorite-stained. At the junction of Thunderbox Creek/Animal Creek, the unit is strongly silicified (deuteric) and contains rare disseminated pyrite. Both weathered and fresh rocks of this unit display a green colouration in the field. The unit is massive and randomly jointed, fractures are commonly infilled with white milky quartz.

The third major volcanic rock observed in the field was a hard, pink-green coloured porphyritic rock containing feldspar, amphibole and minor quartz phenocrysts, this unit outcrops in the northern part of the mapped area. The relationship in the field is that of a late stage shallow intrusion. Petrological analysis describes the rock as a granophyre intrusive of differentiated intermediate character, with the composition approximating to a quartz-mica-syenite. Like other rock types in the area the unit is also randomly jointed. No quartz veins were observed infilling fractures.

A possible contact at 1590m on Mt Block road between the trachytic and syenitic rocks has a strike of 095°.

Rocks of gabbroic composition are not extensive, tending to occur as minor dykes and flows, usually being no greater than 25m in width. They are generally distinctively khaki green to green brown in colour, and often highly weathered. Small dykes were observed in the RFP in Thunderbox Creek, along Mt Block Road, and one dyke was observed in the trachytic unit. Near the junction of Mt Block Road and Thunderbox Creek an intermediate flow was observed containing abundant vesicles. Recorded strike directions of these vertical dykes are 025°, 070° and 140° respectively.

Intermixed with these volcanic rocks, especially the RFP are volcaniclastic units of variable thickness and texture. Included are very fine grained hard silicified ashes and weathered ashes, to lapilli tuffs containing variably quartz, feldspar crystals and acid volcanic fragments these volcaniclastic units are probably all pyroclastic in origin. Apart from the silicified ashes, the other volcaniclastics are commonly sericite and chlorite altered (weathering effect). Again, all units are randomly jointed, with minor quartz veining present in fractures. The silicified ash unit at 880m in Animal Creek, contained rare vesicles (' 1.5mm in width) filled with galena /sphalerite crystals. A very coarse volcaniclastic conglomerate unit was observed between 1260m and 1460m along Mt Block Ridge. Sub angular to subrounded clasts of pink-green rhyolite are set into a finer light green matrix of rhyolitic composition.

Sediments of the Western Sequence were observed outcropping on Kens Ridge/Grunt Rd, at the end of Charter Road and along the Murchison Highway, where the Animal Creek greywacke formation (Collins et at 1981) was exposed. The predominant rock type outcropping along Kens Ridge/Grunt Rd is a grey/green indurated, massive and randomly jointed volcanic derived sandstone. Petrological descriptions classed the rock as a psammitic tuff, primarily subaqueously deposited and possibly mildly reworked. The rock carried traces of fine grained pyrrhotite and pyrite. Pyrite nodules up to 1.5cm in diameter are not uncommon. The pyrite and pyrrhotite are of probable secondary origin.

On the central portion of Grunt Rd dark grey weakly bedded silicified shales and bedded shales were observed in float and minor outcrop. Petrological descriptions described the rocks as shale parted pelitic ashes and tuffaceous pelites.

The rocks are laminated on a sub millimetre scale with alterations of quartzofeldspathic and thin carbonaceous sericite shale interbeds. Fine disseminated pyrite was observed visually, and thin section examination revealed the presence of trace red sphalerite, having a bedded distribution and minor vein distribution (remobilisation ?). A minor unit of volcanic derived grit was observed interbedded with the psammitic tuff. From 682m to 800m on Charter Road, a sequence of green-buff coloured ash, green Fe stained lapilli tuff is in conformable contact with a quartz rich Fe stained volcanic derived sandstone was observed. Strike directions of contacts vary between 065° - 070°, dips could not be determined.

Alteration of the rock types in the whole area mapped is low grade and probably a result of deutric and weathering effects, chlorite, sericite and locally silicification are the most common types, with occasional carbonate and epidote alteration present in the volcanic derived sediments of the Western Sequence.

6. GEOCHEMISTRY

6.1 Lithogeochemistry

Geochemical results for the selected rock chips are presented in Table 6.1, sample location points are shown on Plan TAS/2/4191.

From Table 6.1 the only enhanced Cu, Pb, Zn values are associated with the psammitic tuffs, pelitic ashs, silicified ash and microgabbro. The slightly enhanced values associated with the microgabbro are normal for basic rocks, and do not indicate the presence of mineralisation. Enhanced values associated with the other three rock types, result from the presence of fine grained sphalerite and galena.

Barium is a common element present in volcanic terrains, and the occasional higher value recorded, is regarded as a normal fluctuation. Zinc compared to copper and lead, also seems to be a common element in these rock types.

Table 6.1 Geochemical results of selected rock samples from the study area.

Sample No	Cu	Pb	Zn	Ba	Au	Class
3801	7	5	21	75	.006	Qtz-Mica Syenite
3802	4	2	19	60	.006	Porphyry.Rhy.
3803	4	7	44	60	.006	Cl/Chl Wthd.Tuff
3804	1	20	65	170	.006	Pale green Feldspar Porph.
3805	1	8	36	240	.006	Trachyte
3806	1	2	20	185	.006	Trachyte
3807	3	4	34	95	.006	Amyg.Trachyte
3808	26	179	260	100	.01	Psam. Tuff
3809	15	22	66	70	.006	Pel.Ash
3810	.5	1	16	185	.006	Acid Volc.Int.
3811	2	3	8	85	.01	Brecc.Rhy.Lava
3812	1	2	28	75	.006	Brecc/Alt.Felds. Porph.Rhy
3813	29	70	66	40	.006	Micro Gabbro
3814	1	.5	15	50	.006	Porph.felds.Rhy
3815	2	3	18	55	.02	Porph.Felds.Rhy
3816	.5	.5	10	30	.006	Qutz Vein In Rhy
5847	10	37	400	135	.006	Pel.Ash
5848	22	17	140	40	.006	Pel.Ash
5850	11	1	57	75	.03	Lapilli Tuff
5851	5	6	67	70	.04	Limonite
5852	6	170	180	95	.02	Silicified

6.2 Heavy Concentrate Results

Results and sample collection sites are shown on Plan TAS/2/4197. No anomalies were defined. The results reflect the pattern observed in the rock geochemistry, ie barium and zinc being common elements, lead and copper being deficient in the environment.

6.3 Soil Sample Results

Lepeltier plots were used for processing the geochemical data. Separate plots were constructed for the two ridges as the underlying rock types were markedly different. Plots were constructed for each element, in most cases a number of populations were defined. Due to the low values, the break point between the population representing the highest values and the next lower population was taken as representing the threshold value. Summary data from the plotting exercise is presented in Table 6.2. and TAS/2/4197 (Plots of the raw geochemical data are kept at the Comstaff Office, plans TAS/2/4192-4196).

Table 6.2 Summary of Soil Geochemical Results

Location	Element	No of Samples	Range(ppm)	Threshold	% Threshold and above
Mt Block Ridge	Cu	154	x - 47	16	2.5
	Pb	"	x - 59	19	1.3
	Zn	"	4 - 122	63	3.2
	Ba	"	5 - 160	100*	3.2
	Au	"	x - 0.14	0.08	1.9
Kens Ridge Grunt Rd	Cu	99	1 - 24	13	6.0
	Pb	"	x - 200	60	8.0
	Zn	"	6 - 210	125	6.0
	Ba	"	15 - 85	74*	3.0
	Au	"	x - 0.11	0.025	2%

* No threshold defined - Ba values plot on straight line. Value stated is 2.5 percentile.

6.3.1 Mt Block Ridge Samples

From the geology observed it is thought that the anomalous values defined are only a product of the statistical exercise. It is possible the slightly anomalous values could be due to the presence of trace base metal, not observed during this study, but if so the amounts would be of no importance.

Three samples returned Au values of greater than 0.1 ppm. The underlying rock type in the vicinity is the rhyolitic feldspar porphyry, one analysis of the rock type returned a 0.02 ppm value (sample 3815, Table 6.1), the gold values in the soils probably represent a localised concentration due to weathering.

6.3.2 Kens Ridge/Grunt Rd/Charter Ridge

Anomalies defined along this ridge could in part be statistical, but combined with the slightly enhanced rock geochemistry of rock types from this area and the field/thin section observations of trace base metals it is regarded that at least the Zn and Pb anomalies are real, albeit very weak. Ninety percent of the anomalous values lie within a 240m zone (840m-1000m Grunt Rd, 0-80m Kens Ridge) along the ridge, the rocks in this area are the sandstones and shales of the Western Sequence.

7. CONCLUSIONS

At this stage the geological interpretaton is tentative due to the complex stratigraphic sequence and lack of continuous mappable units. The rocks are a complex and irregular succession which is highly weathered and altered. Rocks are randomly jointed and no structural features are recognised that can be used to give dip and facing directions. The shales and sandstones are an identifiable succession that could be traced and correlated. Outcrop of shale is extremely poor and further mapping would be required to determine its continuity, especially southwestwards.

In the Pinnacles area shales and cherts host the massive Cu-Pb-Zn mineralisation. The shale units at Mt Block are similar lithologically but they definately lack a cherty component, although silicified shales are present. Mineralisation occurs in the Mt Block shales, although compared to the Pinnacles area on a much smaller scale. A major difference in geological setting is that the shale/chert unit at Pinnacles occurs within the Central Volcanic Sequence while at Mt Block the shales occur on the edge of the Central Sequence. Other major orebodies such as Rosebery and Que occur within the Central Volcanic Sequence. This suggests that at Mt Block the area was a volcanic high with the volcanic rocks forming in a subaerial environment, and no marine embayments were present as likely sites for shale and ore deposition. The shales on the NW edge at Mt Block could have been likely hosts if the environment in which they were depositing had an active geothermal system operating. Further work would be required to investigate this possibility.

8. RECOMMENDATIONS

Geochemical values are low; based on present values there is little potential for large scale near surface mineralisation. The shale unit recognised in the field is a possible host for base metal mineralisation and its potential is worth investigating especially its possible extension southwards.

No further work is recommended on the other portions of the Mt Block/Thunderbox Creek area.

Staplin

for: C R MROCZEK
MARCH 1985

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Collins P.L.F.,Gulline A.B., Williams E., 1981.	Zone 7 Sheet 44, MACKINTOSH Geological Survey Explanatory Report, Tasmania Department of Mines
Corbett, K.D., 1981.	Stratigraphy and Mineralisation in the Mt Read Volcanics, Western Tasmania. Econ.Geol.Vo.76,pp 209-230.
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Thynne, D.S., 1984.	Mt Block. An Assessment. Comstaff Proprietary Limited Report.

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A P P E N D I X 1

THIN SECTION DESCRIPTIONS

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Central Mineralogical Services

39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. C.R. Mroczek
Comstaff Pty. Ltd.
Mt. Bischoff Road
WARATAH / TAS. 7321

20th December, 1984

REPORT CMS 84/12/16

YOUR REFERENCE:	Letter dated 13.12.1984
DATE RECEIVED:	17th December, 1984
SAMPLE NOS.:	6 Samples
SUBMITTED BY:	C.R. Mroczek
WORK REQUESTED:	Petrology

for

H.W. Fander, M. Sc.

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181016

REPORT CMS 84/12/16

Six rock chip samples were received for petrological examination. Representative thin-sections were prepared and examined together with the respective cobaltinitrite-stained offcuts. Attached semi-detailed descriptions summarise the microscopic data and include interpretative comments.

Summary

This suite is a composite of variably altered igneous and sedimentary rocks. Igneous types include a uralitised microgabbro, a mildly chloritised (and silicified) vesicular trachyte and a sericite(-chlorite)-altered granophyric porphyry of differentiated intermediate character.

Sediments are tuffaceous, with a subaqueous psammitic tuff and two impure pelitic ashes of the distal subaerially-transported/subaqueously-deposited type. These rocks exhibit low-grade epidote-chlorite or sericitic alteration assemblages with minor syngenetic-diagenetic sulphides (pyrite, locally sphalerite) and, locally, a little secondary pyrrhotite.

D. Cowan, B. Sc.

REPORT CMS 84/12/16

5843 Z (T.S. 52317)
This rock may be classified as an altered microgabbro and, dependent on field evidence, could be interpreted as a minor intrusive or, alternately, the core zone of a flow.

Major constituents comprise albitised and saussurite-stained plagioclase laths (mean 75 μ) with a typical weakly felted ("basaltic") habit, and subordinate extensively actinolite-pseudomorphed (uralitised) intergranular to weakly subophitic augite. A sparse quartz mesostasis is present and gives the rock a certain tholeiitic character, although finer details are obscured by the alteration. Conspicuous leucoxenised primary opaques are accompanied by minor traces of apatite.

The rock is weakly but pervasively stained with extremely fine-grained epidote and exhibits sporadic variably continuous epidote veinlets with accessory quartz and discontinuous chloritic selvedges grading locally into thin chlorite veinlets. There are no detectable sulphides.

5845 Z (T.S. 52318)
This rock may be classified as an amygdaloidal trachyte and again, dependent on field relationships, could be interpreted as a lava or a weakly chilled minor intrusive.

Major features comprise frequent discrete to clustered phenocrysts (mean 40 μ) of albite, and abundant fine-scale quartz amygdales (mean 250-300 μ) in a groundmass of fine poikilitic-anhedral masses of K-feldspar clouded with albite microlites. Accessory leucoxenised opaques are evenly disseminated throughout, along with minor traces of cloudy apatite and chloritised/indeterminate microphenocrystal ferromags (amphibole and/or pyroxene).

The groundmass is weakly but pervasively chlorite-stained. A few amygdales include flakes and clots of Mg-Fe chlorite supplementing the quartz. Traces of fine-grained pyrite are randomly disseminated throughout the weakly chloritised groundmass and the amygdales.

5846 Z (T.S. 52319)
This sample represents a psammitic tuff, primarily subaqueously deposited and possibly mildly reworked.

The framework is poorly sorted in the silt to medium sand range and is incipiently bedded. Clasts comprise splintery-angular to subangular alkali feldspar grains (albite, K-feldspar (sanidine in part)), subordinate quartz grains and featureless to feldspar-porphyritic lava clasts and accessory proportions of brown hornblende. The silt fraction includes devitrified shard fragments, minor leucoxenic semi-opaques and rare zircon.

The matrix consists of microcrystalline quartzofeldspathic material, weakly but pervasively stained with cloudy microcrystalline zoisitic epidote and chlorite. Relatively labile (feldspathic) clasts are similarly altered. This rock carries minor traces of fine-grained pyrrhotite and rare microscopic pyrite anhedra.

5847 Z (T.S. 52320)
This rock may be categorised as a shale-parted pelitic ash.

The rock is laminated on a sub- to fine millimetric scale, with a locally slump-microfolded alternation of microcrystalline quartzo-feldspathic and relatively thin carbonaceous sericitic shale interbeds. Fine silt-sized devitrified shards are vaguely recognisable in the quartzofeldspathic units and locally in sericitic interbeds, gradational with the shale partings. Minor silt-sized clastic quartz and alkali feldspar grains, white mica flakes and conspicuous leucoxenic semi-opaques supplement the devitrified ash components.

Minor discontinuous diagenetic albite veinlets are present.Fine to ultrafine pyrite of syngenetic character is thinly disseminated throughout. Traces of red sphalerite appear as microscopic blebs with a bedded distribution,with accessory traces hosted by the albite veinlets.

This rock reflects a composite subaerial transport/subaqueous deposition mode of origin.

5848 Z (T.S. 52321)
This is a relatively massive impure pelitic ash, grading into a tuffaceous pelite.

The rock is laminated on a sub- to fine millimetric scale and consists largely of crypto- to locally microcrystalline quartzofeldspathic material, weakly but pervasively sericite-stained and microtexturally featureless, although a devitrified ash mode of origin is reasonably inferred.

Fine silt-sized clastic white mica flakes are disseminated throughout. Accessory cloudy microcrystalline ankeritic dolomite is similarly pervasive. The rock is weakly carbonaceous and includes traces of silt-sized clastic quartz, feldspar, opaques and leucoxenic semi-opaques.

Sericite and the ankeritic carbonate are low-grade alteration products, with the Fe-carbonate possibly secondary after dolomite. Thinly disseminated fine-grained pyrrhotite is similarly of secondary character.

5849 Z (T.S. 52322)
This is a granophyric minor intrusive of differentiated intermediate character.

The rock consists essentially of extensively sericitised/indeterminate plagioclase laths and a finely micrographic orthoclase-quartz mesostasis. Minor sericitised feldspar and chloritised amphibole phenocrysts are present,and fine-scale quartz amygdales are thinly disseminated throughout. Disseminated leucoxenised opaques, muscovitised biotite flakes, traces of apatite and rare magnetite complete the mineralogical assemblage.

Inferred primary composition approximates to quartz-mica syenitic General features are consistent with a late differentiate of an intermediate (?dioritic) intrusive. There are no detectable sulphides.

D. Cowan, B. Sc.

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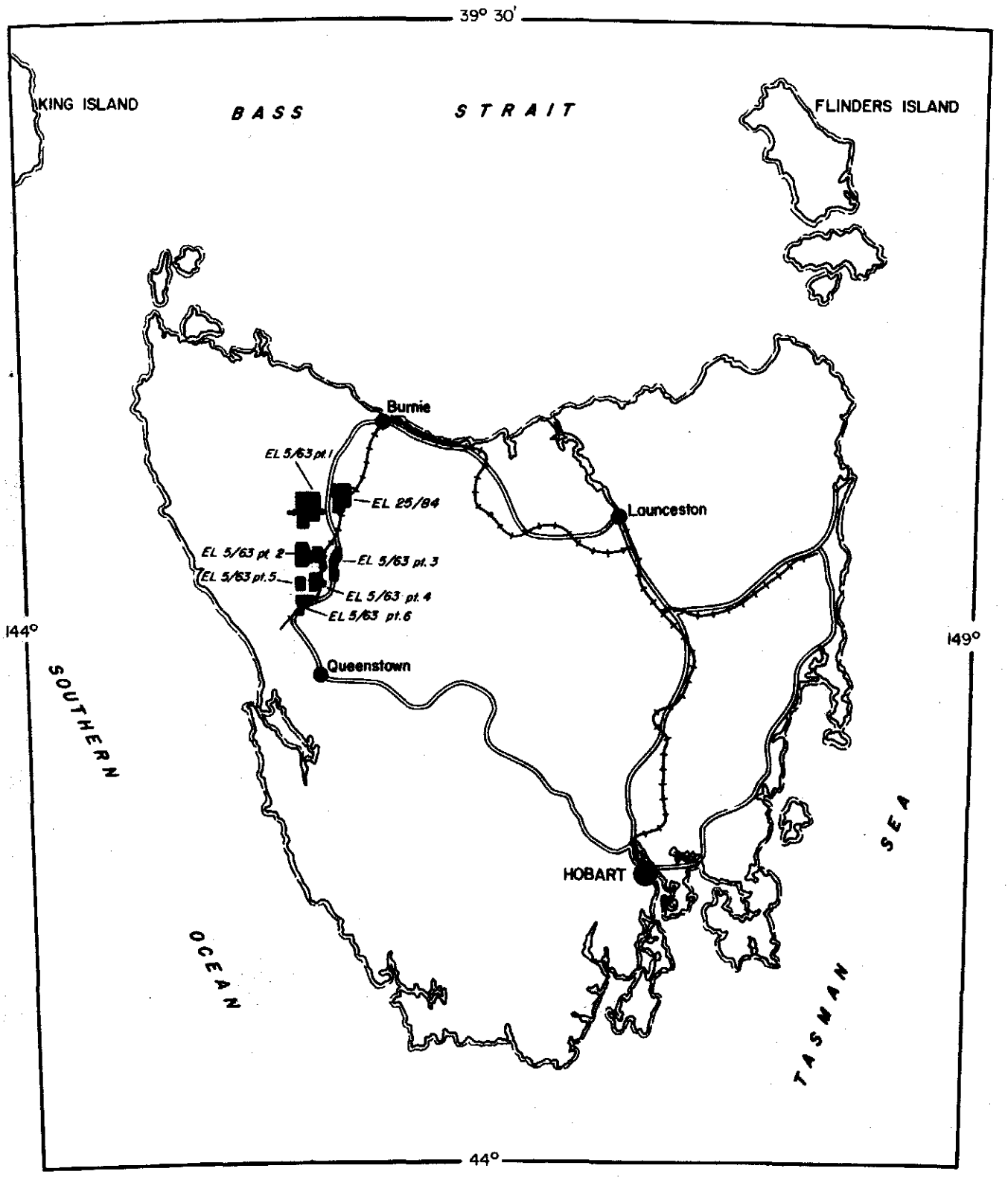

0 50 100 150 200 250 300 KM

1 : 2 500 000

5 cm

Major roads

Major railways

Burnie Major towns

Comstaff lease areas

COMSTAFF PROPRIETARY LIMITED

LOCATION OF COMSTAFF LEASES IN TASMANIA

DRAWN	COMPILED	SCALE	
DRAFT 7/78		1 : 2 500 000	TAS/2/1586

181020

EL 5/63 AREA 3 MT BLOCK PLAN TO ACCOMPANY QUARTER REPORT ENDING 31st MARCH 1985

COMSTAFF PROPRIETARY LIMITED

DRAWN J.H. 2/10/84 | COMPILED C. MROCZEK | SCALE 1 : 50 000 | TAS/2/4136

LEGEND

- AEM anomaly location
- Access road construction
- Grid lines cut
- Grid lines sampled
- Grid lines surveyed
- Stream surveying
- Geophysical survey
- First priority follow-up
- Second priority follow-up
- Ridge and spur traverses

5 cm

380 000 m E

390 000 m E

5 390 000 m N

5 380 000 m N

DEBUSSEY CREEK PROSPECT

THUNDERBOX CREEK PROSPECT

EL 5/63 AREA 3

Mullabadine Pb Zn Cu

DAB

BULGOBAC

MT CHARTER

HANGING ROCK

MT SWALLOW

GEOLOGICAL LEGEND

Qgt	Quaternary	glacial till
Tbs	Tertiary	basalt
Jdr	Jurassic	dolerite
	Cambrian	Mt Reid volcanics
py		porphry
tu		tuff
a.vo	mixed seds &	acid volcanics(undifferentiated)
sa	volcanic sequence	sandstone
bk.sh		black shale
sh		shale
sa		sandstone
a.vo		acid volcanics(undifferentiated)
rh.da		rhyolite/dacite
xal.tu	Rhyolite Dacite	crystal tuff
da	Pyroclastics & lavas	dacite
rh		rhyolite
an		andesite
an	Andesite Dacite	andesite
da	complex	dacite

LEGEND

CENTRAL SEQUENCE VOLCANICS

VOLCANICS

- rfp — light pink/pale green rhyolitic feldspar porphyry
- dgp — dark green porphyry, white feldspar phenocrysts in chloritic groundmass trachytic in composition - rare disseminated pyrite
- bp — pink/brown porphyry - characterised by presence of amphibole phenocrysts. syenitic in composition
- pgp — pale green weathered feldspar porphyry – part fragmented in appearance
- bsd / bsf — basic dykes or flows of gabbroic composition

VOLCANICLASTICS

- ash — white pyroclastic ash
- g.ash — buff green ash
- sil.ash — grey silicified ash (rare residues of sphalerite,galena)
- flt — pale green/pink feldspar dominant lapilli tuff, weakly flow banded in places
- gwt — fine grained green weathered tuff
- qft — quartz feldspar lithic lapilli tuff
- wlt — iron stained lithic lapilli tuff
- vcb — volcaniclastic breccia – angular rfp fragments in chlorite/quartz matrix
- vcc — volcaniclastic conglomerate - rounded acid to intermediate fragments set in pale green rhyolitic matrix

WESTERN SEQUENCE

- sh — grey bedded shales - classed as pelitic ashes
- sa / tu — grey/green indurated, massive quartz/feldspar rich sandstone. classed as a psammitic tuff (grit = grit unit)
- qs — iron stained quartz rich sandstone
- ss — light grey tuffaceous siltstone
- qv — quartz veins
- • RS 3815 — rock speciman for chemical analyses
- • TS 5847 — rock speciman for petrographic description

387 000 m E

386 000 m E

385 000 m E

5 390 000 m N

5 389 000 m N

5 388 000 m N

5 387 000 m N

181021

5 cm

COMSTAFF PROPRIETARY LIMITED

LEASE No. EL 5/63	THUNDERBOX CREEK AREA 020	COMPILED	C. R. MROCZEK
AREA 3		DRAWN	J. HARDISTY
AMENDMENTS 1 8, 2 9, 3 10, 4 11, 5 12, 6 13, 7 14	GEOLOGICAL INTERPRETATION PLAN	DATE	22/4/85
		SCALE	1 : 5000
		REF No	TAS/2/4191

387 000 m E

386 000 m E

385 000 m E

5 390 000 m N

5 389 000 m N

5 388 000 m N

5 387 000 m N

Summary Geochemistry of Soil Samples with values above threshold.

Cu | Pb
Zn | Ba
(Au)

Values above threshold.

Results in ppm
Heavy Concentrates
Cu Pb Zn
Ba Au.

181022

5 cm

COMSTAFF PROPRIETARY LIMITED

LEASE No.	EL 5/63
AREA	3
AMENDMENTS	1 8, 2 9, 3 10, 4 11, 5 12, 6 13, 7 14
	THUNDERBOX CREEK AREA 021
	HEAVY CONCENTRATE
	AND SOIL SAMPLING RESULTS
COMPILED	C.R. MROCZEK
DRAWN	H. PAPAS
DATE	27/2/84
SCALE	1 : 5000
REF. No.	TAS/2/4197