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1970-71 ANNUAL REPORT

E.L. 48/70 AND E.L. 49/70

NORTH - WESTERN TASMANIA

JOINT EXPLORATION VENTURE

BY

Australian Consolidated Industries Ltd.  
Consolidated Gold Fields Australia Ltd.  
Mt. Lyell Mining & Railway Co. Ltd.  
Renison Limited

REPORT BY: L.A. Newnham

Containing extracts from reports by:

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GEOLOGIST

DATE:

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1. INTRODUCTION

A 460 square mile area lying between Balfour and Granville Harbour was simultaneously pegged as an Exploration Licence area on 10th December, 1970 by Renison Limited, and Australian Consolidated Industries Limited. The Minister for Mines resolved the problem as to which Company should be granted an Exploration Licence by granting the Northern half of the area to A.C.I. as E.L. 49/70 and the Southern half to Renison Limited as E.L. 48/70. (See Drawing 2). Renison Limited on behalf of the Consolidated Syndicate (which is the Tasmanian exploration division of Consolidated Gold Fields Aust. Limited, Renison Limited and the Mt. Lyell Mining and Railway Company Limited, with each holding a 33 1/3% equity in the Syndicate agreed with A.C.I. to conduct exploration on the two licence areas under a joint venture agreement. The Consolidated Syndicate and A.C.I. each have a 50% equity in the joint venture.

The Mines Department has agreed that this one annual report on the two licence areas will be sufficient documentation of the work completed during the year,

In the six months that the licences have been held, an aeromagnetic survey was completed over approximately

430 sq. miles of the area, a geochemical sampling programme was commenced in the Interview River area and all data from previous geological work on the area was collected and redrafted in a more usable form.

A sizable programme of geological mapping, geochemical sampling and ground geophysics is recommended later in this report for the 1971-72 year.

2. PREVIOUS WORK:

Despite numerous Government and Company reports on various areas within E.L.'s. 48/70 and 49/70, only a small amount is known about the mineral potential of the area. In the late 19th Century and early 20th Century, small communities of miners worked the alluvial gold shows around Corinna, the narrow tungsten veins in the Interview River area and the copper occurrences in the Norfolk Ranges region. However, no sizable mines developed on any of these fields.

During the 1950's and 1960's, geologists from the Department of Mines and the University of Tasmania conducted mapping

programmes in the Corinna, Zeehan and Pieman Heads areas but not a great amount was done in the area covered by E.L. 49/70.

During the early 1960's, Pickands Mather and Company International, stream sediment sampled many of the drainage patterns between Balfour and Zeehan but do not appear to have followed up the anomalies they delineated during this survey.

During 1966, some unrewarding sampling of the beach sands between Granville and Robbins Island was undertaken by Consolidated Gold Fields Australia Limited.

In recent years, several unsuccessful attempts have been made to dewater the Interview River tungsten workings.

The sketchy nature of geological information and general lack of literature highlights the fact that little attention has been given to the area since the activities of the early prospectors.

### 3. GEOLOGY

The main geological work undertaken so far anywhere in the area was by Spry (1) who described the Precambrian sequence of rock in the Corinna - Zeehan area in some detail. Very little is known geologically about the Northern half of the area. What information is available has been compiled and presented on Drawing 2 accompanying this report.

#### 3.1. General Geology:

Spry (1) describes the Precambrian sequence in the Pieman River area as "low grade regionally metamorphosed pelites (White Schist) and minor basic intrusives overlain, probably unconformably, by unmetamorphosed sediments. These comprise the Donah Quartzite and Slate, Interview Slate and Quartzite, Donaldson Group, Corinna Slate and the Bernafai Volcanics and are in turn overlain, probably unconformably, by the Delville Chert and Savage Dolomite. An extensive Precambrian dolerite Dyke swarm intrudes the Interview Slate. The rocks have been strongly folded and faulted, partly during Precambrian times and partly during the Tabberabberan Orogeny, and intruded by mid-Palaeozoic granitic rocks".

In the Granville Harbour - Zeehan area, Precambrian schists and sediments are overlain by Ordovician to Devonian sediments dominantly dipping North,

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striking East-West. A small outcrop of uralitised Cambrian Gabbro is found six miles east of Granville Harbour intruding Precambrian sediments.

The granites of Heemskirk, Pieman Heads, and Sandy Cape were emplaced during Devonian times along large scale anticlinal structures. Some minor contact metamorphism has occurred around the granite margins.

The Eureka Jurassic Dolerite cone sheet forms an oval body 6 miles long (NW - SE) and 3 miles wide and is emplaced in Donah Quartzites and slates east of Granville Harbour.

Permian tillite outcrops around the Northern margin of the Eureka Dolerite cone sheet.

Scattered outcrops, totalling about 15 square miles, of fine grained vesicular Tertiary olivine basalt are found East of Granville Harbour, around the Eureka Plains area, and between Granville and the Pieman River.

### 3.2. Details of Recognised Formations:

#### 3.2.1. Whyte Schists:

The Whyte Schists are best described by Spry (1) in the Pieman River area, and by Urquhart (2) in the Savage River area. Both these writers date the schists as lower Precambrian.

Whilst the metamorphic grade of the Whyte Schists is generally regarded as corresponding to the Albite - Muscovite - Chlorite subfacies of the Greenschist facies, there does appear to be some variation in rock types present.

Urquhart recognised two main rock units in the Savage River - Rocky River area:- firstly a psammitic assemblage of silty shales, siltstones, mica-quartz schists and phyllites, black graphite - pyrite schists and quartzites; and secondly a dominantly pelitic assemblage of argillite, clay shales, phyllites, and chlorite muscovite schists.

Although the two groups appear at first to be distinguished only on the basis of the quartz content of the original sediment, Urquhart does claim that both the soil type and topography differentiate them as the psammitic sequence is the more resistant to erosion. Spry claims that the degree of alteration is higher in the Northern than in the Southern part of the Whyte Schist belt.

Bedding schistosity is dominant in the Whyte Schists.

### 3.2.2. Donah Quartzite and Slate:

This sequence of white quartzites and grey slates unconformably overlies the Whyte Schist belt. It is regarded as being upper Precambrian in age. Campana and King (3) regarded the sequence as Lower Cambrian but Spry (1) disputes this. In the Renison Bell area, its conformity with middle Cambrian beds does tend to support Campana and Kings' claim.

The sequence is not well exposed anywhere and thus its true thickness and structural setting are not well understood. The quartzite is dominantly white, flaggy, and micaceous in places. The quartz grains vary from angular to well rounded, and there is often some weathered feldspar, and muscovite present.

The matrix is generally fine sericite and chlorite and is not appreciably recrystallised. Muscovite flakes produce some bedding plane fissility.

The slates are generally grey, glossy and strongly cleaved.

### 3.2.3. Interview Slate and Quartzite:

The sequence of mildly metamorphosed upper Precambrian sediments is not known in much detail. Unlike the Donah Quartzites and Slates, it lies completely to the West of the Whyte Schist belt, being unconformable with the Schists. There is a distinct possibility that the Interview Slates and Quartzites are equivalent to the Donah Quartzite and Slates.

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The formation is bounded on the East by the Whyte Schists and on the West by the Pieman Granite.

The beds are asymmetrically folded on a minor scale within a broad N.E. - S.W. trending anticline.

Slates are far more abundant in the formation than are the thinly bedded, fine grained quartzites. The formation was intruded during the Precambrian by an extensive dolerite dyke swarm, and also intruded during the Devonian by the coastal granite mass which resulted in some marginal thermal metamorphism.

#### 3.2.4. Donaldson Group:

The Donaldson Group consists of almost 2,000' of quartzite and minor conglomerates, conformably overlying the Interview Slate and Quartzite Formation in the Mt. Donaldson area and in the Pieman Head region. Spry (1) subdivided the group into seven members forming a sequence of alternating conglomerates and quartzites. The group is structurally deformed by faulting and folding, thus complicating mapping. In the North and South Pieman Heads area, the group has been intruded by the Devonian coastal granites.

#### 3.2.5. Corinna Slate:

Where both the Corinna Slate and Donaldson Group are present, the Corinna Slate appears to conformably overlie the Donaldson Group. Its contact with the Whyte Schist is unconformable, probably faulted. The formation is best exposed along the Pieman River between Corinna and Bernafai Ridge and consists of thinly bedded, weakly cleaved slaty silt stones which weather to a brownish color. Microscopically, the slate are fine grained, consisting chiefly of quartz, sericite and minor chlorite. In the Corinna area, they can be confused with the Whyte Schists but the slates lack the quartz augen and stringers present in the Whyte Schists.

The Corinna Slate generally carries iron-ore minerals and tourmaline as accessories but in the Delville Saddle area near the coast, outcrops of Corinna Slate carry from 5 - 10% iron ore. This may be the cause of the aeromagnetic anomaly in this area.

3.2.6. Ber nafai Volcanics:

About 1300 ft. of tuffs and lavas, known as the Ber nafai Volcanics conformably overlies the Corinna slates. They have been intensely deformed and altered and are difficult to recognise as volcanics in hand specimen. The characteristic mineral assemblage is albite, epidote - chlorite tremolite. The tuffs are sometimes enriched with ilmenite in accessory amounts and the lavas contain abundant magnetite around Corinna.

The tuffaceous component tends to increase moving from Corinna towards the coast and interbedded non-petitic glossy grey crenulated slates correlated with the Corinna Slates become more abundant also.

3.2.7. Delville Chert:

The Delville chert is a relatively thin, black slaty chert and quartzite, probably of secondary origin, resulting from the silicification of slate and dolomite beds. It is unconformable with the Ber nafai Volcanics, and is faulted against the Whyte Schists in the East and the Donaldson Group in the West.

There are only four known outcrops of the formation, the one in Newgate Creek being the largest and only one shown on the geological map (Drawing 2). Other outcrops exist around Corinna, one forming a small prominent hill on the southern bank of the Pieman about three quarters of a mile south of the Savage River junction, another formed on a ridge just East of the lower part of the track from the Pieman up to Mt. Donaldson, and a third just East of the Pieman and Whyte Rivers junction.

3.2.8. Savage Dolomite:

The Savage Dolomite is a partly silicified, only partially recrystallised dolomitic formation, several hundred feet thick conformably overlying the Delville Chert and Bernafai volcanics. It is best exposed along the Pieman River near its junction with the Savage River where complete silification to a massive chert or silicified oolite is observed.

3.2.9. Amphibolites:

Several metamorphosed dykes, originally of igneous origin, have been mapped as intruding the Whyte Schist, South-East of Corinna. These amphibolite dykes appear, in the absence of evidence of soda metasomatism, to have been derived from a group of basic and intermediate sodic igneous rocks, which were subjected to low temperature metamorphism resulting in the development of rocks belonging to the albite-muscovite-chlorite subfacies of the Greenschist facies. All original igneous textures have been destroyed. Margins of the dykes are usually sheared. Foliation trends within the dykes are both conformable and discordant with foliation trends within the Whyte Schists. The dominant mineral assemblage is albite, epidote, actinolite, glaucophane, chlorite, quartz, calcite and magnetite.

In the Savage River area, similar amphibolite dykes within the Whyte Schist are closely associated with the Savage River iron ore deposits and the Rocky River deposits. In those areas, it is very difficult to differentiate the weathered amphibolite from weathered schist or phyllite. The amphibolite body which is the host rock of the Savage River iron deposits is about 4500 ft. thick in the ore zone, but thins rapidly southwards. Extensive alteration of the amphibolite adjacent to the magnetite bodies is widespread and characteristic.

Urquhart believes the amphibolites are Cambrian intrusives. Whyte regards them as Precambrian.

3.2.10. Dolerite Dykes:

Spry (1) claims there are several hundred thin sheets of dolerite intruding the Interview Slates and Quartzite in the Pieman River area. They all trend in a general N.N.E. direction, the average thickness being only 200 ft. and the longest being 5 miles long. The rocks are massive, medium grained, and possess a doleritic texture. Because they are not sheared, they are regarded as post Precambrian in age but pre-Devonian because one dyke near Pieman Heads has been thermally metamorphosed by the Devonian granite intrusion.

3.2.11. Other Recognised Rock Units:

The only other units of any possible economic importance in the licence areas are the Cambrian formations and Devonian granites. However, not a great amount is known of these rock types yet, and so they will not be geologically commented on further in this report.

3.2.12. Structural Geology:

The whole area of Precambrian rocks forms a major structural high known as the Rocky Cape Geanticline which is separated from the Tyennan Geanticline to the East by a structural low of Palaeozoic rocks.

The Whyte Schists form a minor high along the central Arthur Lineament, and consist of a belt of sheared and metamorphosed sedimentary and igneous rocks about 5 miles wide with thick sequences of lower grade metamorphosed sediments flanking it on either side. The axis of this structure swings in an arc from E - W at the coast just North of Granville around to N - S at Brown's Plains (North of Corinna) and to a little West of North along the Savage River, West of Long Plains. It has been interpreted as a fundamental plain of movement and injection, active since early Precambrian times.

There are also major structures caused by Tabberabberan folding and later affected by post-Permian epeirogenic block faulting. The major structures of this type are the Duck

Creek - Healy Creek synclinal zone and the Northern part of the Heemskirk anticlinorium together with the Donaldson Fault. Spry claims that the Donaldson fault is at least 10 miles long with a throw of about 500 ft. East side down. The Delville Fault, which may be Precambrian is not well known but it could have an East side down movement of about + 3,000 ft. On the basis of cleavage and foliation observations. It appears that there were at least two major periods of deformation during the Precambrian.

### 3.3. Known Mineralization:

In the Interview River area, there are a considerable number of small scheelite - wolframite vein deposits occurring near the contact of the Devonian granite and the intruded upper Precambrian Interview Slate and Quartzite. The veins contain wolfram, scheelite, quartz, mica, tourmaline, arsenopyrite and feldspar. Silver-lead mineralization has been found near Duck Creek and in the Interview River area but a great amount is not known of these deposits.

Magnetite enriched Precambrian amphibolite dykes, and other iron rich Precambrian strata similar to the iron bearing formations of the Savage River deposits, can be traced along the line of the Arthur Lineament to the coast between Granville and Pieman Heads.

There are many small copper showings known to exist in the Norfolk Ranges area, scattered between Balfour and Mt. Sunday. However, very little is known about the geological setting of these deposits. Other small copper showings are believed to occur just North of the Granville Farm and in the Interview River area.

Alluvial gold was won from the streams near Corinna around the turn of the century. It was believed that this gold was being shed from the host rocks of the Savage River iron ore deposits but no satisfactory source was ever located.

4. WORK COMPLETED DURING 1970-71:

Major work during the half year for which the licences have been held, included an aeromagnetic survey of most of the area, some preliminary geochemical work over the Interview River Tungsten deposits, and a thorough compilation of all former exploratory work in the areas.

4.1. Aeromagnetic Survey:

An aeromagnetic survey was conducted over approximately 430 square miles of the area in December 1970 - January 1971, by Compagnie Generale de Geophysique. Their results are presented in a report "Interpretation Report for Consolidated Syndicate of the Queenstown Aeromagnetic Survey". The survey was flown at 2700 ft. with flight lines 0.4 nautical miles apart. An interpretation map of the survey is presented in this report on a scale of 1:40000 (Drawing 3) and isogam contour maps on a scale of 1:48000 (Drawings 4 and 5) are also present.

It is not intended here to reproduce the text of C.G.G.'s interpretation reports, however it is sufficient to say that a considerable number of very interesting magnetically anomalous zones were delineated both on E.L. 48/70 and E.L. 49/70, and it is recommended, in detail later in this report, that all of these anomalies be followed up on the ground.

It should be noted that even though the Eastern Section of E.L. 48/70 was not covered during the C.G.G. survey, it was covered by the 1965 aeromagnetic survey flown for Aberfoyle N.L. by Aero Services Ltd., and it is intended to combine the results of this survey with those of C.G.G. in order to complete the overall magnetic picture.

Because of lack of geological knowledge in the northern section of the area covered, it is difficult to explain the cause of the magnetic anomalies and discontinuities. However, in the Southern half where the geology is known better, many of the anomalies can probably be explained by the presence of magnetite in the Precambrian sediments and amphibolites, and possibly by mineralised fault zones where anomalies are transgressive to formational trends.

#### 4.2. Geochemical Sampling:

Because much of the area surrounding the Interview River tungsten workings is covered by a thin soil cover, it was decided to soil sample the area to gain some idea of its possible economic potential. Progress was slow due to difficulties of access and communications.

By the end of the year, some orientation sampling had been completed on the mine dumps in the area, and a sampling grid had been partially laid out. Unfortunately few soil samples were collected prior to flood waters destroying the camp.

Results of the mine dump sampling were disappointing overall, but some samples did contain up to 0.75% Sn and 1.15% tungsten (in separate samples). Random soil samples taken around the mines for orientation purposes were generally low in tin and tungsten, with most values being below 30 p.p.m. Sn and 60 p.p.m. tungsten and with the highest values being 100 p.p.m. Sn and 260 p.p.m. tungsten.

The laying out of a regular grid system was commenced, with lines 400 ft. apart. In all, a 3600 ft. baseline, bearing 50° magnetic, and 25,000 line feet, pegged every 100 ft. were laid out over the southern group of workings.

#### 4.3. Data Compilation:

A considerable proportion of the six months for which the two licences have been held, was devoted to the collection of data obtained from former exploratory attempts in this area. There are many old records held at the Mt. Lyell Mining and Railway Co. Limited offices of the results of prospecting conducted by that company in the Norfolk Ranges area early in this century. Whilst these records have been of little assistance to date, they may be more useful once the old workings in the Norfolk area are located on the ground.

The results of a fairly extensive stream sediment sampling programme conducted along the coastal and Pieman River areas by Pickands Mather and Co. International were obtained and redrafted in a useable form. Several interesting anomalies were outlined during this survey but there are no reports of these anomalies being

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followed up. Most notable are the high, and extensive, tin anomalies obtained in the streams draining the granites North and South of Pieman Heads. Although a considerable number of Cu, Pb, Zn and Sn anomalies were located in many of the small streams draining into the Pieman River, it is felt that many, but not all of these could have been caused when flooding of the Pieman, which is somewhat contaminated, would have caused sediments being carried by the Pieman to be deposited up these small creeks for some considerable distance. Many of the anomalies however do warrant checking.

## 5. RECOMMENDATIONS FOR 1971-72

A sizable programme of geological mapping, geochemical sampling and geophysical ground work is proposed for 1971-72 to follow up most of the interesting areas delineated during 1970-71 year.

A budget of \$106,000 is proposed to complete the work recommended below.

Because of poor existing access into the areas of interest, particularly in the North, a sizable percentage of the total budget is allocated to such things as road building, track cutting and aerial photography.

### 5.1. Geochemistry:

Programmes of both stream and soil geochemical sampling are recommended in many areas as detailed below. In the past, only the fine fractions of samples were analysed, thus making the basic assumption that chemical and mechanical breakdown of weathering products is fairly well advanced. However, in the youthful topographies such as those on the West Coast, the breakdown is probably not well advanced and it is therefore recommended that some research be instigated to test this theory, for example by analysing both coarse and fine fractions, initially on a random basis.

#### 5.5.1. Stream Sediment Sampling:

It is recommended that stream sediment sampling programmes be conducted over as many aeromagnetically anomalous zones as possible and also over certain areas which appeared geochemically anomalous

on the basis of Pickands Mather's geochemical survey, in particular the granite intruded areas to the immediate North and South of Pieman Heads. Pickands Mather's work showed stream sediments in these areas to be carrying up to 2,000 p.p.m. (0.2%) Sn.

Drainage patterns on, or adjacent to, aeromagnetic anomalies should also be stream sediment sampled.

All samples should be analysed for Cu, Pb, Zn, Sn and As.

Only "side of stream" or bank samples should be taken as "centre of stream" samples in high rainfall areas are not particularly useful. Main water courses should be sampled every 0.25 miles and both branches of stream junctions should also be sampled.

Accurate, small scale aerial photographs are an absolute necessity for this type of work. Color photos are recommended.

#### 5.1.2, Soil Sampling:

The soil sampling programme commenced over the Interview River tin tungsten workings in 1970-71 should be extended and completed over the whole area of known mineralisation. Access will again be a problem and helicopters may be the most economical means of completing this work if a large number of personnel can be diverted onto the job for a short period of time. The best alternative would be to establish a camp on the beach near the Interview River and walk into the gridded area each day as it is only about 1.5 miles from the coast. Some beach sand sampling could also be conducted from such a camp.

Samples need only be assayed for Sn and wolfram.

#### 5.2. Geophysics:

The only geophysical work recommended is ground magnetometry work over aeromagnetically anomalous areas, with the dual purpos firstly to confirm the existence of the aeromagnetic anomalies and secondly to gain more information about the nature and magnitude of the anomalies. In order to do this successfully, widely spaced grid lines, (about 0.5 miles apart initially)

should be cut across the anomalies and pegged every 100 ft., their positions being photo controlled and photo plotted. Readings should be taken every 100 ft. Areas subsequently regarded as being of interest should be gridded on closer intervals for more detailed work if time permits.

A reinterpretation of the aeromagnetic survey conducted in 1965 for Aberfoyle Tin N.L. over the Eastern section of E.L. 48/70 should be undertaken by C.G.G.

5.3. Beach Sands Evaluation:

There are extensive dune developments along the foreshores between Granville Harbour and Kenneth Bay and it is recommended that these dunes, particularly the older ones, be sampled in a reconnaissance fashion and analysed for heavy minerals. Light weight tube samplers as developed by A.M.C. Ltd. for this purpose, are possibly the best means of sampling deep dune formations, especially beneath the water table.

Although there is road or boat access to Sandy Cape in the North and Pieman Heads in the South, a helicopter, working in co-ordination with the Interview River programme recommended above, would probably be the best means of obtaining access.

5.4. Road Building and Track Cutting:

In order to gain access to the Norfolk Ranges area where there are many interesting aeromagnetic anomalies and also many old copper workings, it is recommended that the existing four wheel drive access road to the South Balfour workings be extended South to Mt. Norfolk or further if possible, keeping the road as close to the anomalies as is feasible.

Access tracks or grid lines should preferably be cut and pegged by field assistance where the country is fairly open but in areas of thick bush, professional cutters would probably do a better job and should be paid on a distance basis.

No major road access is considered necessary South of the Pieman River.

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5.5. Camp Construction:

Where access is difficult such as the Interview River and Pieman Heads areas, tent camps are regarded as the most economical. If some early encouragement is obtained in either area, especially the Pieman Heads area, then demountable huts could be erected in suitable places without much difficulty.

In the Corinna area, either commercial or domestic caravans are the obvious accommodation answer as the access is good.

Because of the large area to be covered between South Balfour and the Norfolk Ranges, mobile camps would be the most efficient means of accommodation. However, because of the remoteness of the area, tents are not recommended. Commercial caravans, built and designed for this type of work, supplemented by demountable huts, would be more suitable. Their use would depend largely on the access road between Temma and Balfour being in a reasonable condition. An amount has been included in the budget to cover the purchase of several specialised commercial caravans.

5.6. Aerial Photography:

The successful completion of the geochemical, geophysical and geological programmes proposed, depends largely on personnel being able to accurately locate themselves on the ground. This is best done using aerial photographs. The existing aerial photographs over the area were taken at 20,000 ft. (ground scale approx. 1:40,000) in 1956. Besides lacking definition, they do not show all the existing accesses into the area. It is therefore recommended that, following the completion of the road to Mt. Norfolk, the area be photographed from 9,000 ft. (ground scale 1:18,000 approx.) in colour.

Even though colour photography is more expensive than black and white photography, it is far more useful for geological mapping.

5.7. Staffing and Communications:

It is estimated that up to five geologists and eight field assistants will be required in summer to complete the work recommended. This staff can probably be drawn from Renison Limited, C.G.F.A. and A.C.I. Ltd., without

much difficulty. A staff build up should commence in September, 1971 and reduce in April, 1972.

Satisfactory communications could be obtained by use of two way radios and four 4-wheel drive vehicles. A helicopter is considered necessary for the Interview Rivers and beach sands programmes recommended but has not been budgetted for.

5.8. Budget:

A total budget of \$106,000 is recommended, and a budget breakdown is attached to this report.

Salaries and wages have been calculated using a 50% overhead loading.

Consumables are regarded as items which will most likely last for one year only, e.g. field gear, office supplies, food etc. whereas "equipment" is regarded as the longer lasting items such as caravans, huts, generators, etc..

Outside services included such things as plane and boat hire etc..

The other budget categories are self explanatory.

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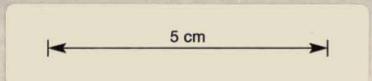
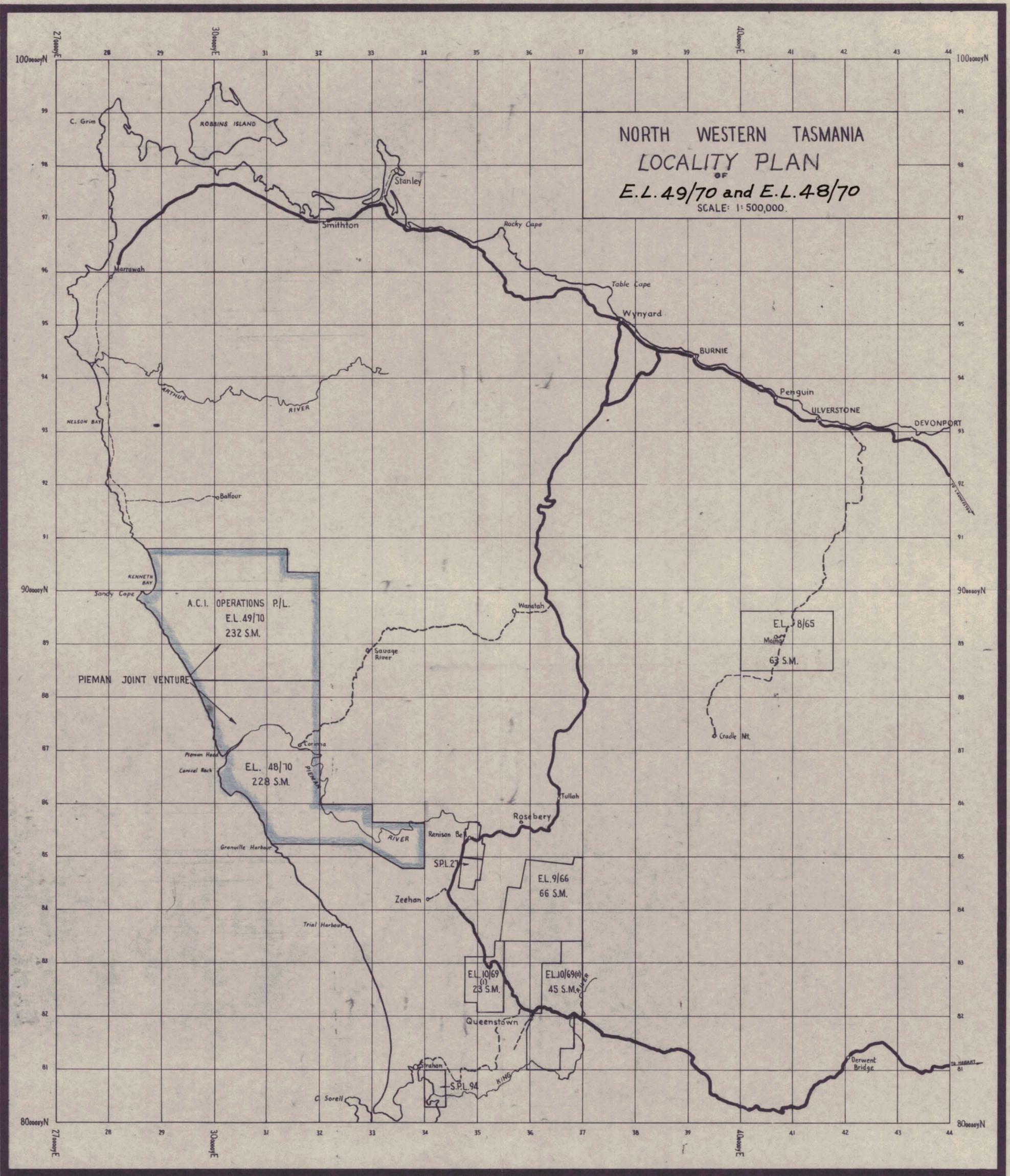
A.C.I. - CONSOLIDATED SYNDICATE JOINT VENTURE

EXPLORATION BUDGET E.L.48/70 AND E.L.49/70 - 1971/72

Submitted 9/6/71

	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Salaries and Wages (50% loading)	800	1500	2000	4000	4000	6000	6800	7000	5000	4000	2000	1500	400	45000
Consumables	100	200	200	300	300	600	800	1000	800	350	150	100	100	5000
Equipment			1000	3500	3500									8000
Vehicle & Plant Maintenance	200	300	400	400	500	500	500	500	500	500	400	300	200	5200
Outside Services	100	100	150	150	150	150	100	100						1000
Road Building		6000	8000	8000	6000	2000								30000
Track Cutting				2000	2000	1000								5000
Geophysics					500					500				1000
Geochemistry						200	200	200	200					800
Aerial Photography				5000										5000
TOTALS	1200	8100	11750	23350	16950	10450	8400	8800	6500	5350	2550	1900	700	106000

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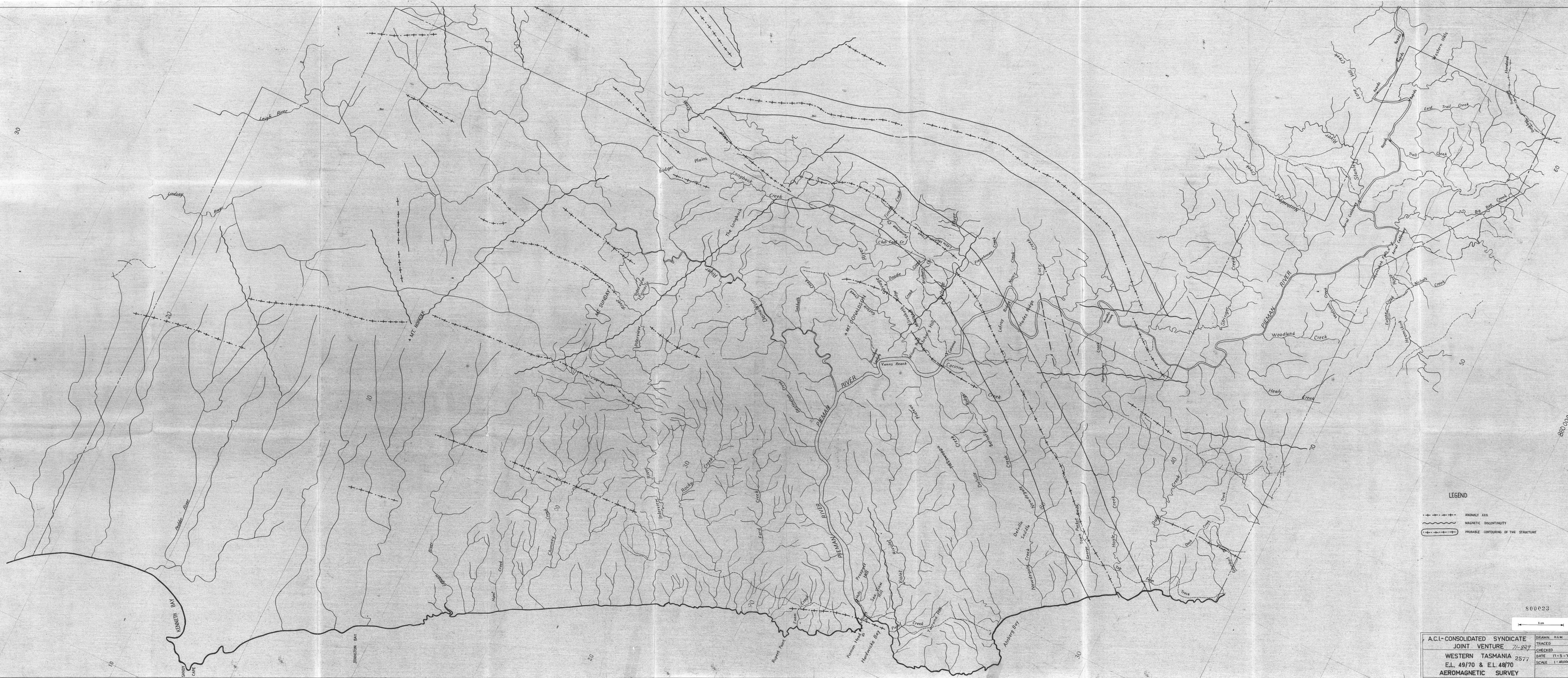
**LEGEND**

- TERTIARY Tb BASALT
- JURASSIC Jt DOLORITE
- PERMIAN Pz ZEEHAN TILLITE
- DEVONIAN Dn GRANITE
- OROVICAN TO DEVONIAN Ds SEDIMENTS
- CAMBRIAN Cc
- CAMBRIAN Cs
- PRE-CAMBRIAN
  - PCs DOLERITE
  - PCs SAVAGE DOLERITE
  - PCs DEVILLE CHERT
  - PCs BERN VOLCANICS
  - PCs CORINNA SLATE
  - PCs DONALDSON GROUP
  - PCs INTERVIEW SLATE AND QUARTZITE
  - PCs DONAN QUARTZITE AND SLATE
  - PCs AMPHIBOLITE
  - PCs WHITE SCHIST
  - PCs UNDIFFERENTIATED - NORTH OF LAGOON RIVER
- OLDER PRE-CAMBRIAN
- PRE-CAMBRIAN
- UNDIFFERENTIATED - NORTH OF LAGOON RIVER
- GEOLOGICAL BOUNDARY
- APPROXIMATE GEOLOGICAL BOUNDARY
- FAULT
- UNCONFORMITY

800022  
5cm

A.C.I.-CONSOLIDATED SYNDICATE  
JOINT VENTURE 71-227  
WESTERN TASMANIA  
E.L. 49/70 & E.L. 48/70  
GEOLOGICAL MAP

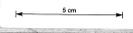
DRAWN R.G.W.  
TRACED  
CHECKED  
DATE 11-5-71  
SCALE 1:40000  
2576



LEGEND

- +---+---+ ANOMALY AXIS
- ~~~~~ MAGNETIC DISCONTINUITY
- +---+---+ PROBABLE CONTOURING OF THE STRUCTURE

800023



A.C.I.-CONSOLIDATED SYNDICATE JOINT VENTURE 77-827		DRAWN R.G.W.
WESTERN TASMANIA E.L. 49/70 & E.L. 48/70		TRACED
AEROMAGNETIC SURVEY		CHECKED
		DATE 11-5-71
		SCALE 1:40,000

2577

42/4 7-829

CONSOLIDATED SYNDICATE  
ZEEHAN - TASMANIA

SHEET No 2

AIRBORNE MAGNETOMETRIC SURVEY

# TASMANIA

## ISOGAM CONTOUR MAP

LEGEND

GRID UTM Meridian of origin 145°00' East of Greenwich 500 km  
HAYFORD SPHEROID Latitude of origin 0° Equator 10,000 km

ISOGAM CONTOURING  
Spacing 20 gammas

FLIGHT PROGRAM Line spacing 0.4 Nautical Mile  
Flight altitude 2700' Barometric

Flight line with fiducial mark

144°30' 145°00' 145°30'

41°50' 41°55' 41°59'

5 cm

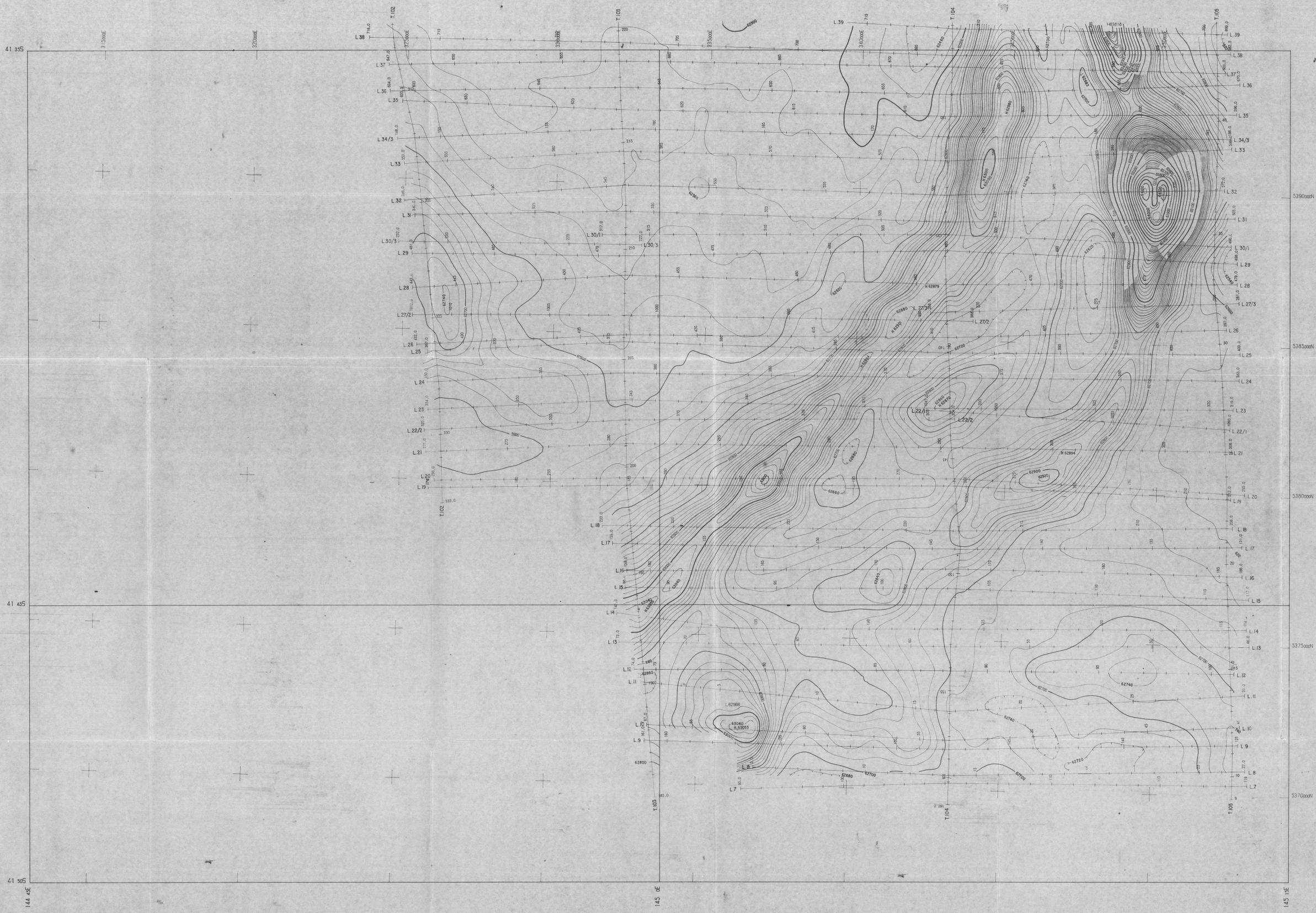
SCALE 1/48,000

0 2 miles

Survey and compilation carried out by  
COMPAGNIE GENERALE DE GEOPHYSIQUE  
26-28 Manning Street, St BRISBANE, QLD

January 1971

Survey 2665



AIRBORNE MAGNETOMETRIC SURVEY

# TASMANIA

## ISOGAM CONTOUR MAP

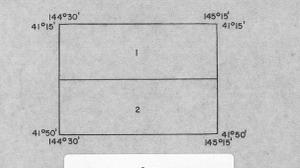
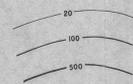
**LEGEND**

GRID UTM  
HAYFORD SPHEROID } Meridian of origin 145°00' East of Greenwich 500 Km  
                          } Latitude of origin 0° Equator 10,000 Km

ISOGAM CONTOURING  
Spacing 20 gammas

FLIGHT PROGRAM  
Line spacing 0.4 Nautical Mile  
Flight altitude 2700' Barometric

Flight line with fiducial mark



SCALE : 1/48,000

Survey and compilation carried out by  
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26-28 Manning Street, Stn BRISBANE QLD

