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**MICROFILMED**  
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**BIANNUAL REPORT**  
1/1/93 TO 30/6/93  
  
EL 3/92 - THIRKELL HILL,  
TASMANIA

MINES		
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**Date:** June 1, 1993

**SUMMARY**

Anglo Australian Resources N.L., during the half year to date, have completed a data review / compilation and a helicopter supported field program that consisted of C horizon soil, pan concentrate gold and limited rock-chip float sampling at EL 3/92 - Thirkell Hill.

The data compilation showed there are at least 21 anomalous areas that require follow-up exploration. The field program was concentrated around the 'Condor' group of anomalies and consisted of:

1. C - horizon (auger) sampling - 229 collected and analysed for Pb, Zn, Cu, Fe, Ba,  $\pm$  Au,  $\pm$  As.
2. Pan concentrate (gold) sampling - 35 were collected and analysed for Au only. Their weights averaged 10 - 20 grams. Eleven samples contained > 10 micrograms Au (background was 0.5 to 1 microgram) and 5 contained visible gold.
3. Rock chip sampling - 6 collected and analysed for Pb, Zn, Cu, Fe, Ba, Au and As.

The gold results are highly encouraging and suggest either that gold mineralisation occurs within the EL or the gold is derived from sulphide deposits with a high gold credit. No gold was known or indicated within the EL prior to this survey, except for 4 uncertain samples taken by CSR in 1985.

Many of the auger cuttings showed a high iron content in the C horizon. There is a reasonable probability that base metal values will be documented by the analyses of these samples.

## TABLE OF CONTENTS

## SUMMARY

- 1.0 INTRODUCTION
  - 1.1 Licence Details
  - 1.2 Target Types
  
- 2.0 REGIONAL GEOLOGY
  
- 3.0 EL 3/92 GEOLOGY
  
- 4.0 PREVIOUS EXPLORATION
  - 4.7.1 Geophysics
  - 4.7.2 Geochemistry
  - 4.7.3 Gold
  
- 5.0 WORK COMPLETED
  - 5.1 Data Compilation / Review
  - 5.2 C-Horizon Auger Assisted Soil Sampling
  - 5.3 Pan Concentrate Gold Sampling
  - 5.4 Rock Chip Outcrop and Float Sampling
  
- 6.0 DISCUSSION / RECOMMENDATIONS
  
- 7.0 EXPENDITURE ESTIMATE
  
- 8.0 REFERENCES

**FIGURES**

1. EL 3/92 - General Location
2. EL 3/92 - Tenement Location
3. Tasmania - Generalised Geology
4. Prospect Zones - North Sheet
5. Prospect Zones - South Sheet
6. CSR (1985) Pan Concentrate Gold Sampling + Anomalous Drainages
7. Area Sampled by Pan Concentrate for Gold - 1993
8. Total Area of Gold Anomalous Drainages Defined by Pan Concentrate Sampling

**TABLES**

1. Anomalous Threshold Values for Stream Sediments and Soil Samples, according to McGregor - Dawson (1975).
2. Thirkell Hill Anomalous Zones.

## 1.0 INTRODUCTION

Exploration Licence 3/92 - Thirkell Hill (67 square kilometres) is located in southwest Tasmania, between Queenstown and Elliot Bay, approximately twenty kilometres from the coast (Figure 1). The exploration licence covers some of the most prospective host rocks for volcanogenic massive sulphides in Australia. The license covers an 18 kilometre strike length. (~ 42 km<sup>2</sup>) of Mt. Read Volcanics.

E.L. 3/92 is a joint venture between Anglo Australian Resources N.L. [Anglo] (Manager - earning 80% equity) and Mac Mining N.L. (20% free carried interest to a bankable feasibility).

The area has received incomplete surface exploration (no drilling or comprehensive gold exploration / geochemical sampling had been undertaken) by previous explorers, however, numerous Pb/Zn/Cu geochemical anomalies within rhyolitic extrusives, intrusives and pyroclastics and quartz - feldspar porphyry intrusives have been outlined. In particular a zone approximately 9 kilometres in length and between 1 and 2 kilometres in width has been shown by soil and auger geochemistry to contain at least three separate horizons that contain high iron, probably pyrite, with associated lead, zinc, and copper. Some of these zones have given airborne E.M. and I.P. responses.

The northern one third of the license area has not been tested by detailed soil or auger sampling / geochemistry, although stream geochemistry and geologic mapping suggests that this part is equally as prospective as the southern area.

### 1.1 Licence Details

E.L. 3/92 was granted to Mac Mining N.L. on 1/10/92 and the term expires 25/9/93. The area was joint ventured to Anglo Australian Resources N.L. on the 25th of September, 1992. The required expenditure commitment for the first year is \$13,400.

The license is centred at approximately 145° 37' E / 42° 39' S and 386000mE/5278000mN (AMG) and the boundaries of the tenement are described as follows: Commencing at the southwest corner at grid co-ordinates 384 000 metres E. 5 267 000 metres N. thence grid north to 5 278 000 metres N. grid east to 385 000 metres E. again grid north to 5 287 000 metres N. again grid east to 386 000 metres E. grid south to 5 286 000 metres N. again grid east to the Franklin-Lower Gordon Wild Rivers National Park boundary and by that boundary in a general south easterly direction to approximate grid co-ordinates 387 000 metres E. 5 284 400 metres N. again grid south to 5 282 000 metres N. again grid east to 388 000 metres E. again grid south to 5 274 000 metres N. again grid east to 389 000 metres E. again grid south to 5 272 000 metres N. grid west to 388 000 metres E. aforesaid again grid south to 5 267 000 metres N. aforesaid thence again grid west to the point of commencement (Figure 2).

144°

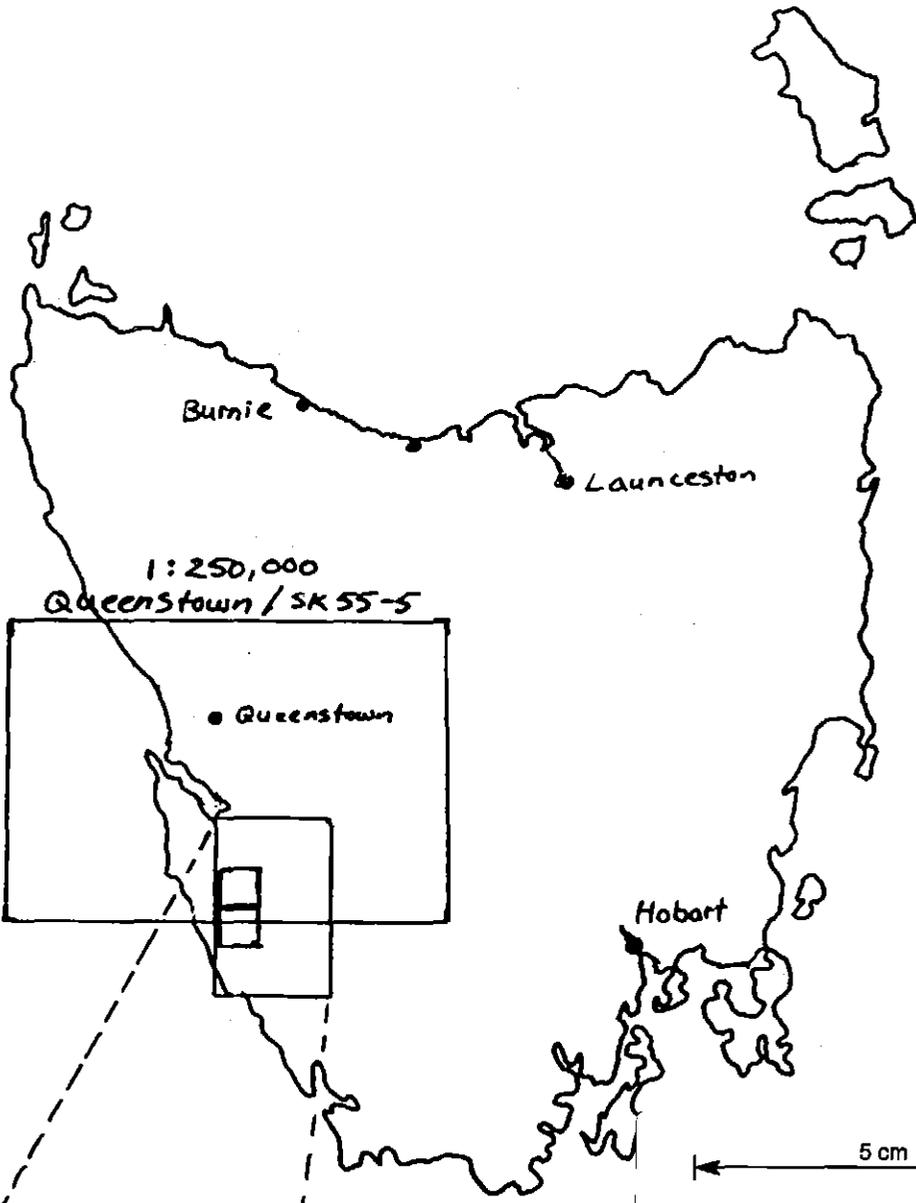
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Queenstown / SK 55-5

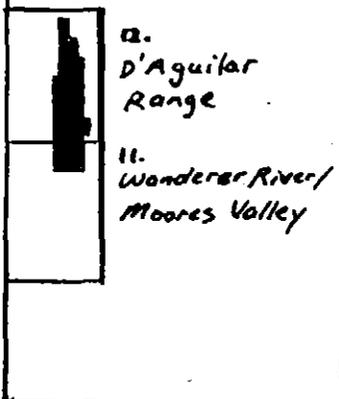
● Queenstown

Hobart

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I.  
D'Aguilar  
Range

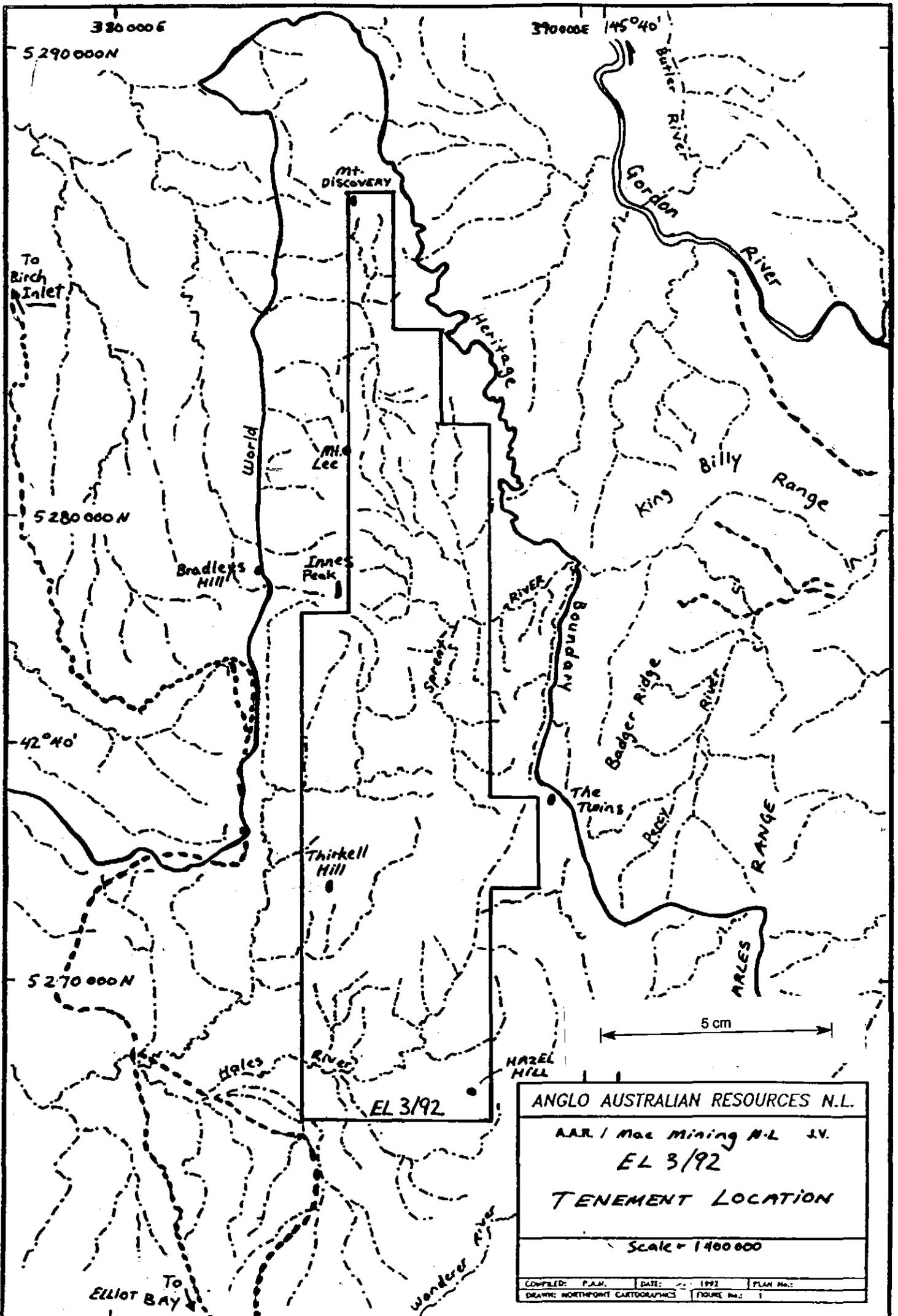
II.  
Wanderer River/  
Moores Valley



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EL 3/92

GENERAL LOCATION



## 1.2 Target Types

The Mt. Read Volcanics (Figure 3) are host to five major massive sulphide deposits (Mt. Lyell, Rosebery, Hercules, Que River and Hellyer), one major gold deposit (Henty) and many smaller deposits.

The target models for the Thirkell Hill area are well defined:

1. Polymetallic massive sulphides such as Rosebery/Hellyer with plus 20 Mt at 21% combined Pb+Zn, 160 g/t Ag and 3 g/t Au (Large et al, 1987).
2. Copper/gold deposits such as Lyell with plus 100 Mt (in several deposits) at 1.3% Cu and 0.4 g/t Au (Large et al, 1987).
3. Structurally controlled, high-grade gold deposits such as Henty with 500,000 plus tonnes at 30 to 50 g/t Au.

Significant base metal and gold mineralisation has been located to the south of Thirkell Hill in the Elliott Bay area. This area is presently being explored by Aberfoyle.

## 2.0 REGIONAL GEOLOGY

Section 2.0 has been quoted from Green, 1990. All his figure references have been deleted.

The Mt Read Volcanics (named after Mount Read, 2 km east of the Hercules mine), are dominantly calc-alkaline volcanic and intrusive rocks ranging in composition from subordinate basalt and andesite to predominant dacite and rhyolite. They form an arcuate belt wrapping around the western and northern margins of the Tyennan region from Elliott Bay to near Deloraine (Figure 3). The age of the volcanics is poorly constrained, but they may be restricted to the Middle and Late Cambrian. The oldest fossils in the volcanics are of late Middle Cambrian age at Que River (Undillan) and at Mount Lyell (Boomerangian) where they occur in units underlain by the bulk of the local volcanic sequences ..... Minor felsic and mafic volcanics and intrusives occur within Late Cambrian to Early Ordovician siliciclastic sequences of the Denison Group (Owen Conglomerate and correlatives) which blanket, commonly unconformably, much of the eastern and northern flanks of the Mt Read Volcanics ..... On the western margin the volcanics either interfinger with, or are faulted against, fossiliferous sedimentary rocks of the Dundas Group and correlatives. No felsic volcanic detritus has been reported from the Crimson Creek Formation or from the oldest units of the Dundas Group, so it appears that the Mt Read Volcanics may be synchronous with the Dundas Group.

In central western Tasmania, the Mt Read Volcanics are bisected by a major NNE trending fault zone, the Henty Fault, which separates the belt into two different metallogenic and lithological segments. Although movement on the fault was considerable in the Devonian ....., a concentration of tholeiitic dykes in the vicinity of the fault SE of Mount Read strongly suggest it was an active structure in the Cambrian ....

144°

146°

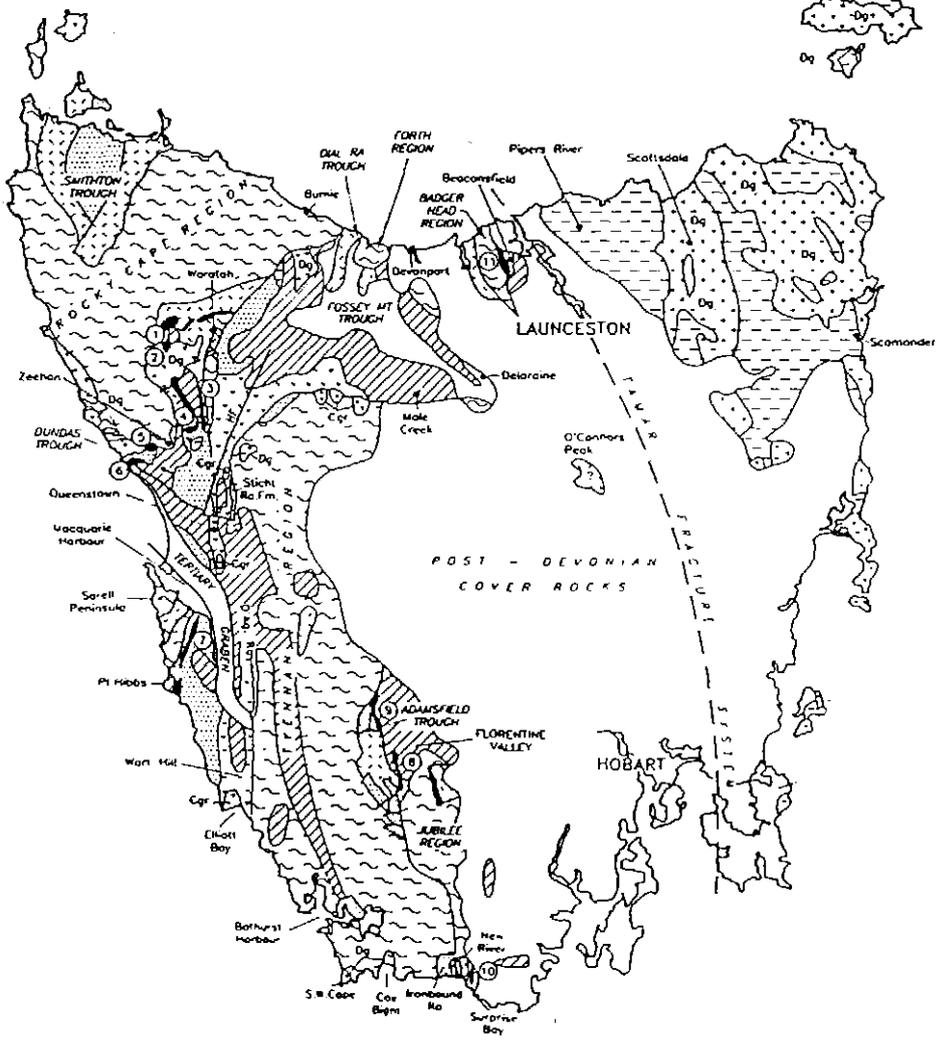
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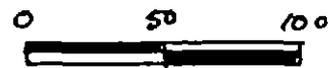
44°



**LEGEND**

- |  |                     |  |   |
|--|---------------------|--|---|
|  | Devonian granitoids |  | Late Cambrian to Early Devonian Wurawina Supergroup   |
|  | Mathinna beds       |  | Middle to Late Cambrian volcano-sedimentary & sedimentary sequences and correlatives        |
|  | Cambrian granite    |  | Ultramafic-mafic complexes  |
|  | Mt Read Volcanics   |  | Crimson Creek Fm, Success Creek Group, sequences of Waratah Cleveland area and correlatives |
|  | Precambrian         |  |   |
|  | Faults              |  |   |

5 cm



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**GENERALISED GEOLOGY**  
 (from Green, 1990)

COMPILED: P.A.M.	DATE: 1992	PLAN No.:
DRAWN: NORTHPORT CARTOGRAPHICS		FIGURE No.: 1

### 3.0 EL 3/92 GEOLOGY

The geology is described in some detail by McGregor Dawson (1975) and Strickland (1978) and is shown in Figures 4 and 5. The Department of Mines published (1992) the geology of the area at 1:25 000 as the A'Aguilar Range and Moores Valley - Wanderer River map sheets.

The Lower-Middle Cambrian rocks within EL 3/92 are known as the Lucas Volcanics and are equivalent of the Mt. Read Volcanics to the north and the Lewis River Volcanics to the south. Essentially the Lucas Volcanics consists of a sequence of fine to coarse-grained porphyritic quartz-feldspar rhyolitic lavas, pyroclastics, volcanoclastic sediments, and a high-level intrusive coarse-grained rhyolitic porphyry.

The Proterozoic rocks to the east are undifferentiated quartzites, quartz-mica and tourmaline-quartz schist, silicified dolomites, graphitic schists and chlorite schists. The faulted contact between the Precambrian and the Cambrian volcanics is suggested to be a steep reverse fault with negligible horizontal movement.

On the western fringe of the Cambrian volcanics is the Owen Conglomerate and to the south the volcanic sequence is obscured by Tertiary graben fill sediments.

The Tasmanian Department of Mines, on the D'Aguilar Range map sheet, describes the main mass of volcanics which extend along the entire western side of the EL as dominantly cream to pink felsic lava (quartz feldspar  $\pm$  biotite-phyric) with minor intercalated epiclastic rocks and lava breccias. To the east of these volcanics is an apparently intrusive unit described as coarse grained quartz-feldspar-biotite porphyry. This porphyry also extends the entire length of the EL but is much thicker at the northern end. It appears, in part, to have a distinctive magnetic character.

Underlying the above lava/intrusive is a sequence of siltstones, sandstone and shale that is partly siliclastic and partly volcanoclastic. Underlying that unit are poorly bedded to massive sandstones and granule-pebble conglomerate. Both these sedimentary units are considered to be correlates of the Sticht Range Beds.

Unconformably overlying the main volcanic sequence is the Waterloo Creek Group. This group consists of two members - a lower unit of mainly volcanoclastic conglomerate, siltstone and sandstone with some intercalated lavas and an upper unit of mainly pyritic black shale and siltstone that may grade upwards into micaceous siltstone and sandstone.

Little is known of the internal structure of the volcanics, although there appears to be definite northerly structural and geochemical trends. A cursory examination of 1:25000 aerial photographs shows abundant faults, lineaments and circular features and intense shearing and cleavage has obliterated most bedding and facings.

#### 4.0 PREVIOUS EXPLORATION

##### 4.1 Geophysics

Significant surveys were carried out as follows:

- February, 1973 - Scintrex Turair survey for Australasian Minerals over the northern third of the area.
- March, 1975 - Union Oil IP Survey - 21 line km over the southern half of the area
- April, 1975 - Geox M-400 EM survey for Union over the southern third of the area
- February, 1977 - Geopeko VLF-EM, some ground magnetics and IP over various prospects
- December, 1980 - Dighem II survey for Geopeko over the entire EL

In general, these surveys defined numerous low order anomalies but few "high quality" conductors or anomalies. Where the surveys coincide, in some cases they support each other (co-incident anomalies), but in many instances anomalies recorded by one survey were not noted by the other. The VLF-EM was plagued by equipment failures and produced little in the way of useable data.

Union's gradient array IP defined 22 chargeability highs, but many may be lithologically derived. A zone of higher conductivity (lower resistivity) was defined by the IP survey within the Condor River West Zone from Union line 136N to 168N, in approximately the same position as the soil/auger geochemical anomalies. Good magnetic coverage resulted from the Dighem and 1975 EM surveys, but to date little use has been made of this data.

Two magnetic features dominate the EL. The main anomalous zone trends northerly from 5273000N (to the north end of the EL). It is mainly confined to the zone of intrusive coarse grained quartz-feldspar-biotite porphyry, except at the northern end of the EL where it's intensity increases and it transgresses the main volcanics to trend under the Owen Conglomerate. The magnetic feature terminates towards the south at 5273000N, even though the quartz-feldspar-porphyry intrusive appears to be continuous to the southern boundary of the EL (it terminates where the more or less flat valley passes into the deeply eroded Hale River catchment).

The D'Aguilar North Zone, Vikings 3 and 4, and part of the D'Aguilar South Zone are within this magnetic feature. An explanation for this magnetic zone and its' southern termination at 5273000N is not obvious from the mapped geology. Indeed it would suggest that the mapping is incorrect at the southern end of the EL.

The second main magnetic feature extends along or near the western side of the EL from 5268000N to 5271000N. There is no immediate explanation for this magnetic feature from the known geology, however, it extends south-wards beyond the southern boundary of volcanics beneath Tertiary gravels. It is not known if this indicates that the mapping is suspect or if the gravels are perhaps quite thin.

Other less continuous and less intense magnetic features occur mainly in the southern half of the EL. Further evaluation of these features may assist exploration.

The lack of strong EM and IP anomalies is disappointing but according to Large et al (1987) VMS deposits in Tasmania tend to have weak IP responses and no EM response and thus does not preclude the presence of a massive sulphide deposit.

#### 4.2 Geochemistry

Significant geochemical surveys were carried out as follows:

- . 1973 - Reconnaissance soil and rock chip sampling by Australasian Minerals.
- . 1975 - 129 stream sediment, 1294 soil samples (A<sub>1</sub> horizon), and 42 rock samples by Union Oil.
- . 1977 - 82 rock chip samples, 959 stream sediments, 308 auger samples (hand and Jacro auger holes) by Geopeko.
- . 1981 - 174 auger samples (hand auger) by Geopeko.
- . 1985 - 13 stream sediment samples by C.S.R. (for gold).

Geochemical responses in Western Tasmania tend to be muted or of low absolute values, at least in part due to the widespread presence of humic acids. According to Baker (undated) humic substances

are likely to ensure that visible attributes of massive sulphides such as gossans will be removed in the Western Tasmanian environment. Where the chemical activity exceeds the physical removal of weathered products, the soil profile may be strongly leached and secondary dispersion patterns will be weakened or entirely obliterated by removal of trace elements as mobile humates.

This is especially true at Thirkell Hill where much of the EL is a relatively flat valley with numerous 'swampy' areas. Physical removal is at a minimum over much of the EL.

**Table 1: Anomalous threshold values for stream-sediments and soil samples, according to McGregor Dawson (1975).**

Element	Stream	Sediments	Soil	Samples
	Weakly Anomalous	Anomalous	Weakly Anomalous	Anomalous
Cu	5	7	10	14
Pb	9	18	20	29
Zn	10	35	80	99

Strickland (1978) states that for stream sediment samples regional background is 2 ppm Cu, 20 ppm Pb and 25 ppm Zn. Anomalous results are greater than 9 ppm Cu, 69 ppm Pb and 159 ppm Zn.

The anomalous threshold for Union and Geopeko drainage samples is markedly different but as both surveys tended to give anomalies in the same general areas the differences may have been caused by analytical factors.

Widespread low-level, but very distinct Cu, Pb & Zn anomalism has been recorded in all types of samples, however, to date no massive sulphides or definite gossans after massive sulphides have been located. This to be expected given the probable high level of humic acid, soil cover, relative lack of outcrop along stream channels, thick low scrub and rain forest.

The geochemistry indicates that zones rich in Fe, Pb, Zn & Cu exist within the volcanics, within the overlying volcanoclastic sediments and near the volcanics - volcanoclastics boundary. Several zones exist and each appear to extend over a strike length of several kilometres.

Union and Geopeko drainage geochemistry correlate fairly well, except Union's values and backgrounds (in general) are lower than Geopeko's. Geopeko and Union define similar anomalous areas, but Union's results tend to define larger areas.

Geopeko's auger results are more definitive than Union's soils; in general they confirmed the soils although in a few cases no auger anomalies were located below soil anomalies and in at least one case an auger anomaly resulted where surface soils were not anomalous.

#### 4.7.3 Gold

The gold potential of the E.L. 3/92 area was unknown, however, gold had been documented in outcrop and drill hole to the south of the license in the Elliott Bay region.

The only gold geochemistry appears to have been completed by CSR just prior to Geopeko's relinquishment of E.L. 9/74. Thirteen sites were visited in a single, brief reconnaissance trip. BLEG (bulk cyanide leach) and stream sediment (silt) samples were collected at each site, but pan concentrates were only collected at 4 sites. The results are ambiguous. Each of the pan concentrates were reported to contain visible gold and all returned anomalous assay results (maximum of 10.5 g/t Au from 8 noted flakes in the pan - no sample weights or contained gold weights were noted). All stream sediments (-80 mesh) were below level of detection and generally bulk leach results were low. At the 10.5 g/t Au pan concentrate sample site, the bulk leach result was 0.073 ppb.

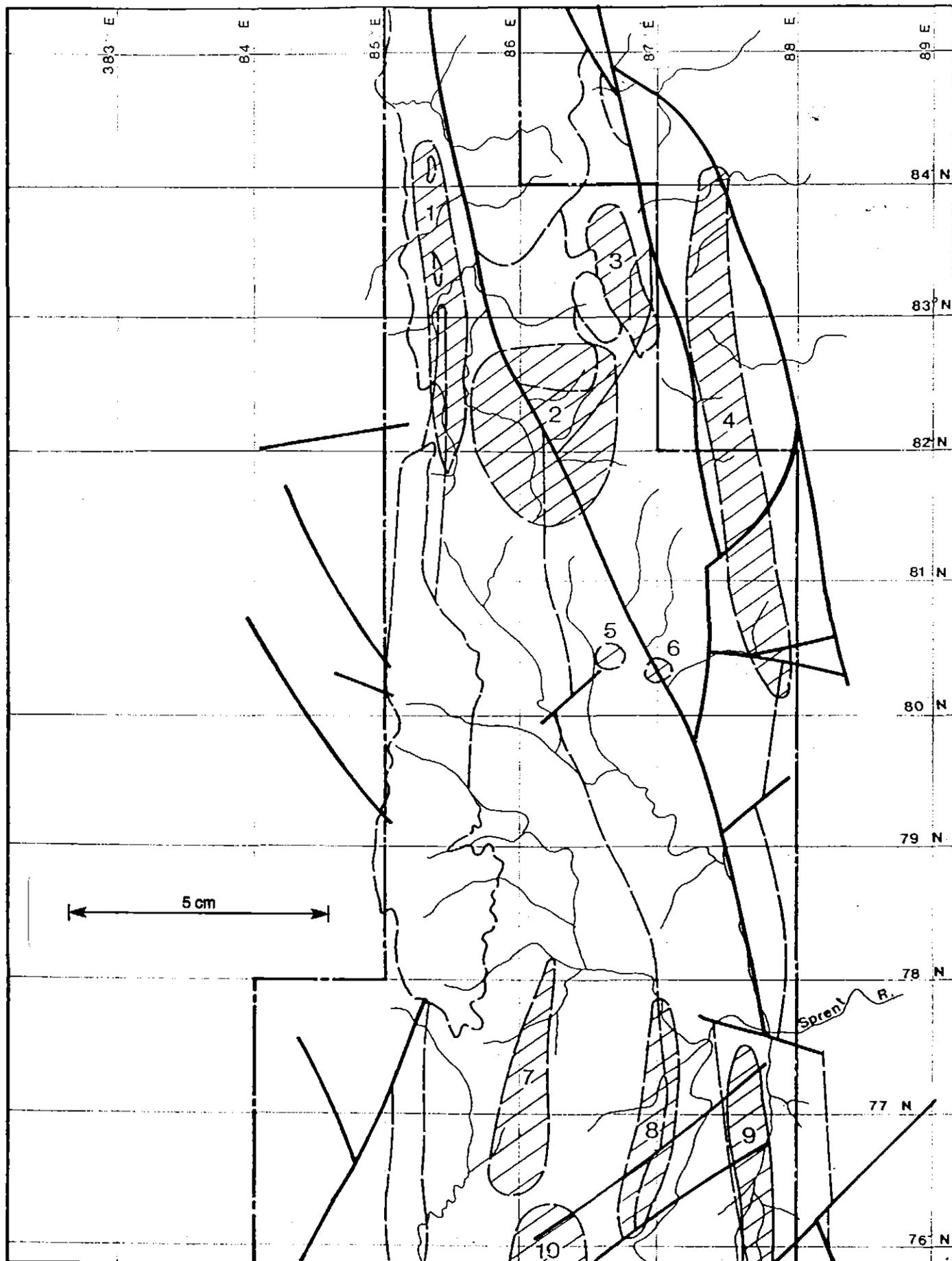
Most of the samples were taken at or near the boundary of Owen Conglomerate with the volcanics (located on the western side of the E.L.) and CSR noted (erroniously) that samples were dominated by fine quartz derived from Owen sandstones and conglomerates. CSR's conclusion that all the gold in pan concentrates is derived from Owen Conglomerate is not supported by any evidence. In fact the anomalous pan concentrates on the Sprent and Condor Rivers suggest that gold is shedding directly from the volcanics.

## 5.0 WORK COMPLETED

### 5.1 Data Compilation / Review

The prospects, anomalous areas and prospective zones defined by the combined work of Union and Geopeko are described below. The term prospective zone has been used in most cases, in preference to 'prospect'. To date, twenty one zones have been defined that require follow-up exploration and these areas are indicated on Figures 4 and 5 and are briefly described in Table 2.

The Union and Geopeko nomenclature and numbering is different and there has been a tendency to give names (e.g. Geopeko lists prospects by names - Viking, etc or by number-Dighem 21 B) to clusters of geochemical or geophysical anomalies (particularly by Geopeko) without much regard for their strike extent. A new set of prospect/prospective zone names is introduced here.

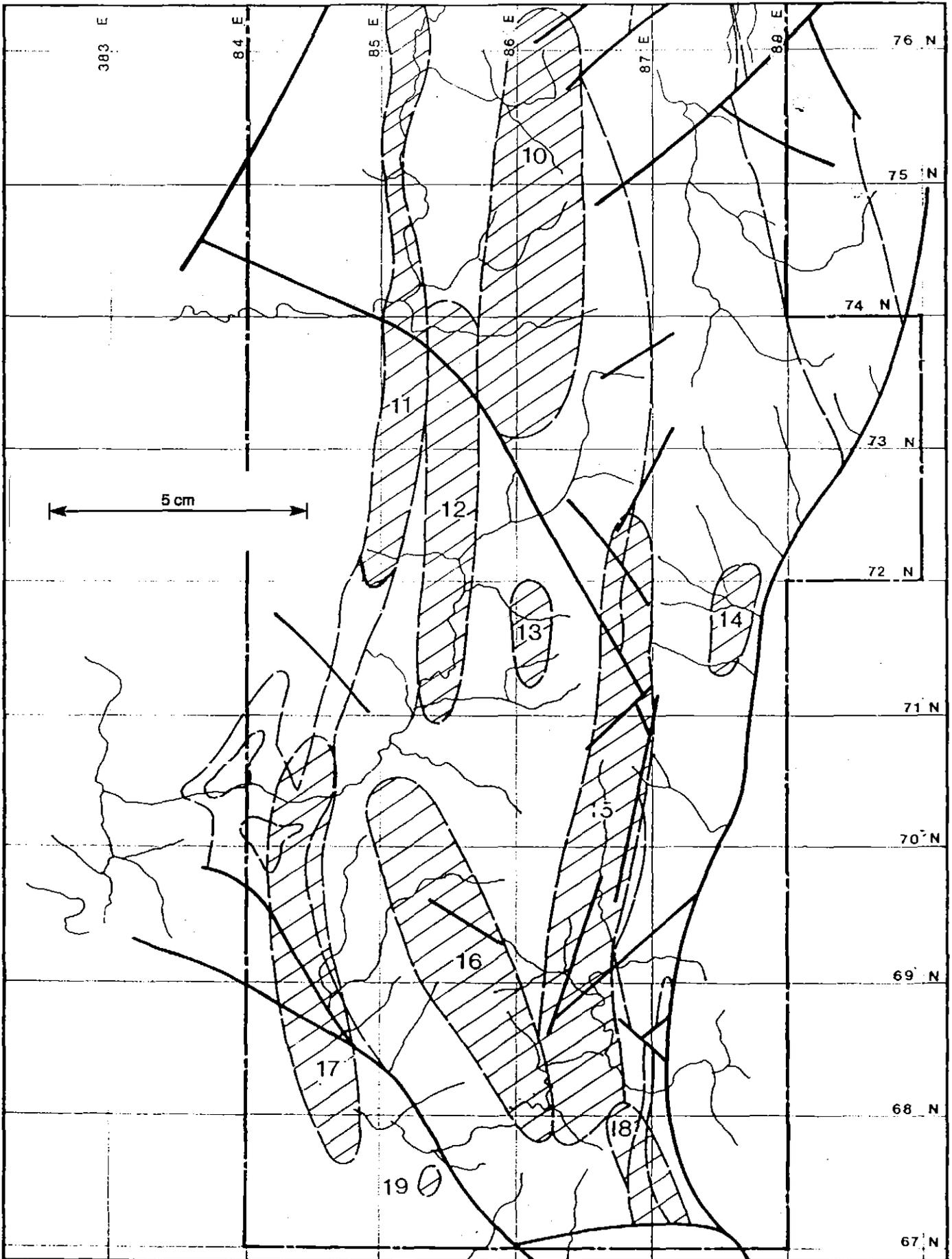


----- E.L. Boundary  
 Soil/Auger Geochemical Anomaly



MACMINING N.L.  
 E.L. 3/92 THIRKELL HILL  
 PROSPECT ZONES  
 MODIFIED GEOLOGY - NORTH SHEET

Scale 1: 40000	Date Sept 92	Author RMcN	MB
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E.L. Boundary

Soil Auger Geochemical Anomaly



MACMINING N.L.

E.L. 3/92 THIRKELL HILL  
 PROSPECT ZONES  
 MODIFIED GEOLOGY - SOUTH SHEET

**Table 2: THIRKELL HILL ANOMALOUS ZONES**

Prospect	Comments
Condor River	3km x 1km cohesive, coincident stream-sediments, soils, C horizon samples (to 560ppm Pb and 800 ppm Zn), I.P and airborne EM anomalies.
Condor River West	3.5km x 0.3km zone with anomalous soils, C horizon samples (to 1190 ppm Pb, 870 ppm Zn), three airborne EM and 3-I.P. anomalies.
Condor River East	1 km long zone with anomalous soils (to 260 ppm Pb), an airborne EM anomaly and roughly a coincident Dighem EM anomaly.
Hales River West	2 km long zone with anomalous stream - sediments (to 240 ppm Pb), soils, C horizon samples (Pb to 860 ppm, Zn to 888 ppm) and 2 airborne EM anomalies.
Hales River East	3.5 km long zone with anomalous stream-sediments and soils.
Viking 14	Two E.M. anomalies and coincident? Dighem E.M anomalies.
Hales River North	Small zone defined by Pb and Zn anomalous soils.
Hales River NW	Small zone defined by Pb anomalous soils.
Viking 15	E.M. anomaly in pyritic lithic-crystal tuff.
Sprent River West	1 km long zone of anomalous soils, erratic stream-sediments and one Dighem EM anomaly.
Sprent River East	1.5 km long weak soil anomaly.
Sprent River South	2 km long weak soil anomaly.
Viking 3	Turair E.M. anomaly.

Prospect	Comments
Viking 4	Turair E.M. anomaly.
D'Aguilar North	Anomalous stream-sediments, Zn rock-chip, Turair E.M. anomaly and 2 possible EM conductors
D'Aguilar South	1.5 km <sup>2</sup> area of extensive drainage anomalism.
Mt Lee	Zone with 2 airborne EM anomalies, plus faulting and haematite mineralisation similar to 'The Blow - Mt. Lyell'.
Thirkell North	Narrow 1 km long zone of anomalous soils with airborne E.M. VLF-EM and Dighem anomalies, pan-concentrate gold anomaly, I.P anomalies and weak stream geochemistry.
Thirkell Hill South	2 km long strong airborne EM anomaly, Dighem anomaly and weak stream geochemistry.
D'Aguilar East	Several airborne EM anomalies.
Line 184N IP	Two weak IP responses flanking a magnetic feature.

A few of these anomalies have been subjected to some follow up such as mapping, auger drilling, VLF EM etc. but in general such follow up is limited.

Geopeko, after the 1977 field season, recommended detailed study of the following five areas:

- \* Viking 1 - 2 - now Mt.Lee Zone
- \* Viking 19 - 5 - now D'Aguilar North Zone
- \* Viking 3 - 4
- \* Viking 10 - now Condor River West & Condor River Zones
- \* Viking 23 - now Hale River East & West Zones

Some work was carried out on Viking 10 (Condor River Zone), but it appears that no other follow up was ever completed. The work on Viking 10 (includes Viking 22) upgraded the area to drilling status, but no holes were drilled.

## 5.2 FIELD EXPLORATION PROGRAM

The field component of the Thirkell Hill exploration program commenced 18/4/93 and was concluded 1/5/93. Mobility was inhibited by inclement poor weather (rain plus boggy and muddy conditions virtually everywhere) and difficult terrain due to heath, button grass and low to moderate forests (locally). The program concentrated on the area near the 'Condor' group of anomalies (see Figure 5).

### 5.2 C-Horizon Auger Assisted Soil Sampling

A total of 229 C-horizon soil samples were collected, using a 'two' man power auger, at various locations within the "Condor" group of anomalies in the central sector of the E.L. Some encouraging iron staining was noted in the holes. The C-horizon samples are (at this time) still in transit to Perth and they will be analysed for Pb, Zn, Cu, Fe, Ba  $\pm$  Au  $\pm$  As.

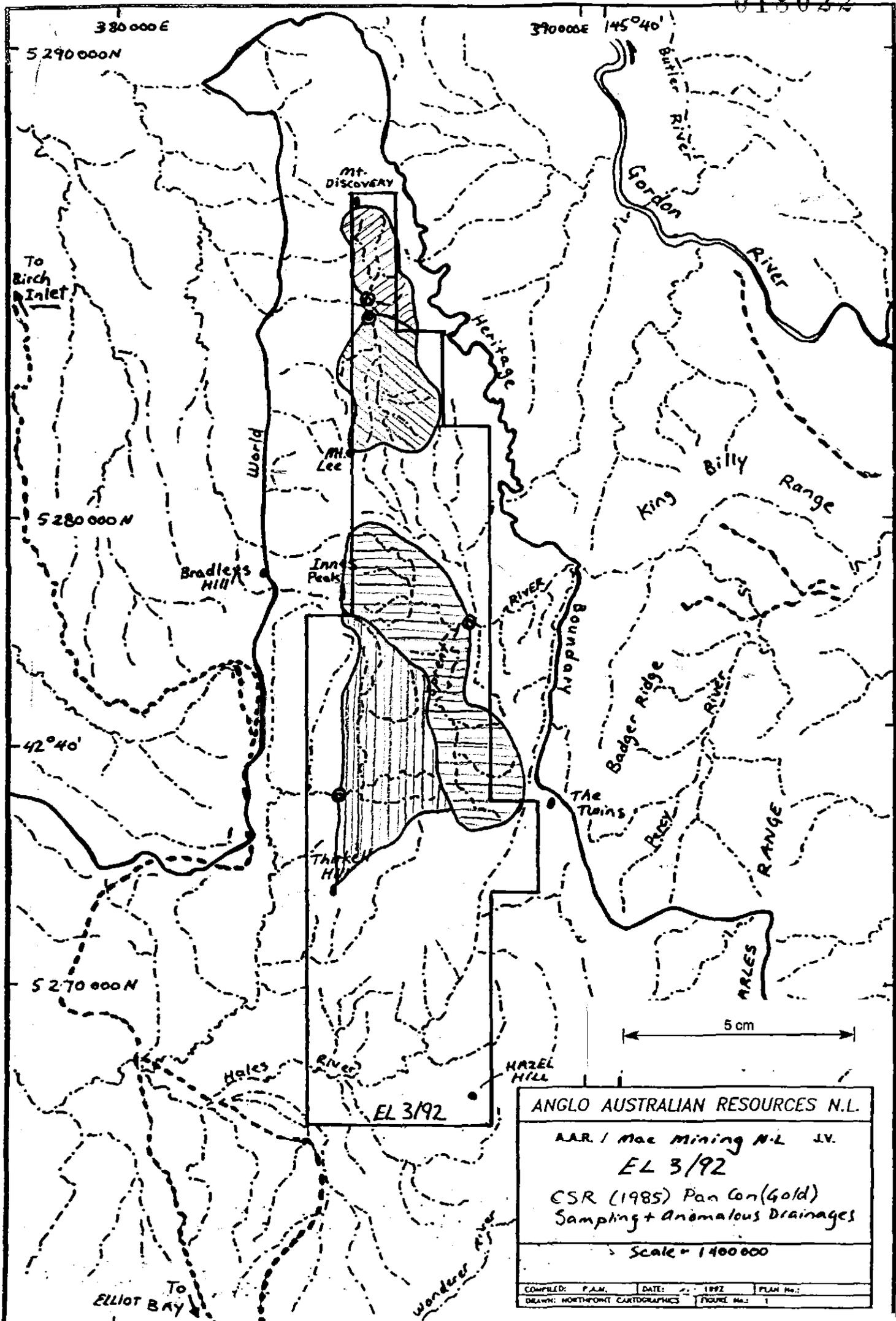
### 5.3 Pan Concentrate Gold Sampling

A pan concentrate survey for gold was conducted over the largest area that could be traversed by foot from the camp site. This included a large part of the central section of the tenement. This program was not specifically suggested or included in the proposal.

The pan con sampling was successful as several anomalous areas were defined by visible gold. Analysis of the samples confirmed these observations and also enlarged the area to include streams where visible gold was not noted. A total of 35 separate sites were sampled, constituting a drainage area of approximately 31 km<sup>2</sup>. A total of 11 samples returned assays greater than 10 micrograms contained gold (generally > 1.0 g/t Au with samples averaging approximately 20 grams). The gold anomalous area is approximately 12 km<sup>2</sup>, however, the sample density varies considerably. One visible gold anomaly that was noted is very localised, with the anomalous drainage covering less than 0.4km<sup>2</sup>.

### 5.4 Rock Chip Outcrop and Float Sampling

No gossans were located, however, six rock chip / float samples of ferruginous pyroclastics, graphitic / carbonaceous shale, Fe stained and altered quartz vein and quartz vein with an unidentified metallic sulphide or perhaps oxide mineral will be analysed for Pb, Zn, Cu, Fe, Ba, Au and As.



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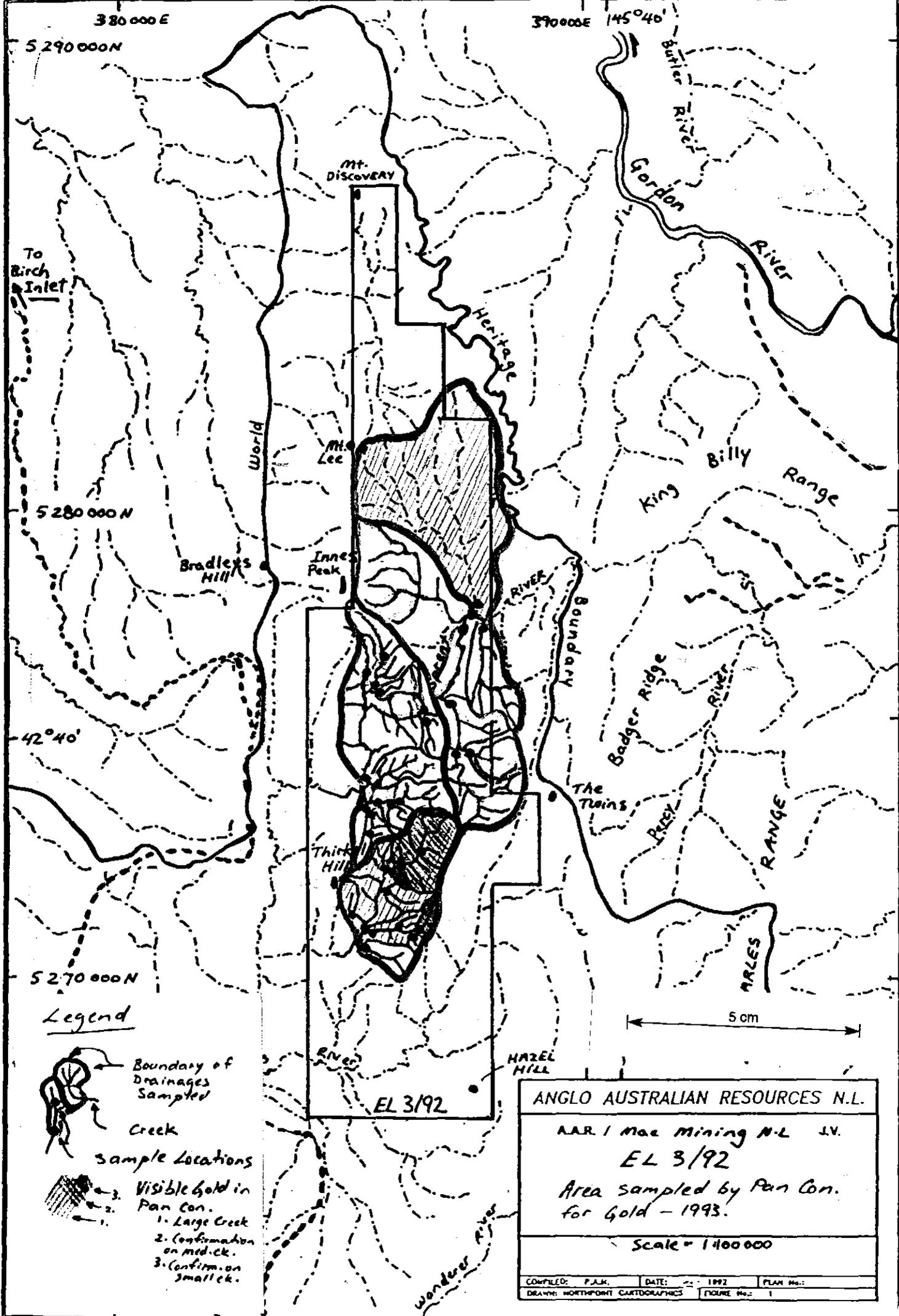
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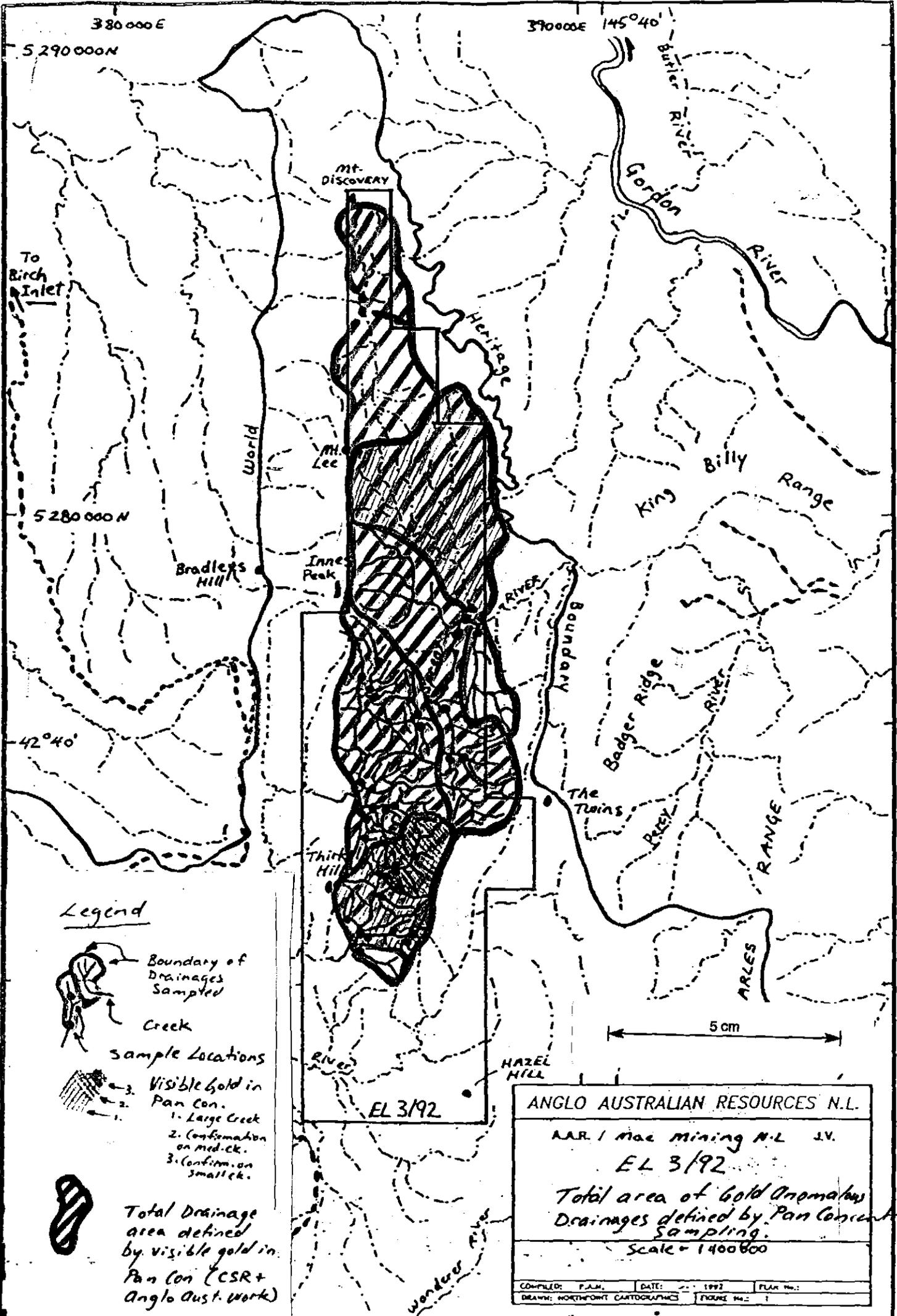
EL 3192

CSR (1985) Pan Con (Gold)  
Sampling + Anomalous Drainages

Scale = 1400 000

COMPILED: P.A.M.	DATE: 1992	PLAN No.:
DRAWN: NORTHPOINT CARTOGRAPHICS		FIGURE No.: 1





Legend

-  Boundary of Drainages Sampled
-  Creek
-  Sample Locations
-  Visible Gold in Pan Con.
  - 1. Large Creek
  - 2. Confirmation on med. ck.
  - 3. Confirmation on small ck.
-  Total Drainage area defined by visible gold in Pan Con (CSR + Anglo Aust. work)

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EL 3/92

Total area of Gold Anomalous Drainages defined by Pan Concentrate Sampling.

Scale = 1:40000

COMPILED: P.A.M.	DATE: 1992	PLAN NO.:
DRAWN: NORTHPOINT CARTOGRAPHICS	FIGURE NO.:	1

## 6.0 DISCUSSION / RECOMMENDATIONS

The work completed to date on the EL 3/92 general area by other exploration companies has been superficial because surface geochemistry and airborne geophysics have yielded many anomalies, but no drill holes have been completed. Anglo and Mac Minings data compilation of work completed to date has noted or confirmed:

The Cambrian series consists predominantly of felsic intrusive and extrusive volcanics.

The volcanics contain intercalated sediment horizons, several of which are rich in Fe (probably pyrite) and anomalous in Pb, Zn and Cu. These horizons are semi-continuous over strike lengths of several kilometres. These zones are known only from soil/auger sampling.

Areas with extensive haematite veining and brecciation have been noted.

Unconformably overlying the volcanics is a volcanoclastic /volcanic sequence with black shales. This sequence has consistent EM, IP and geochemical anomalies over a strike length of more than 10 kms.

Unexplained geochemical and geophysical anomalies occur in the volcanoclastic sequence that underlies the volcanics and overlies the Precambrian.

No comprehensive gold exploration had been undertaken even though visible gold was recorded by CSR (1985) in 4 pan concentrates draining the area. Structural situations similar to Henty could occur within the E.L.

Numerous 2nd & 3rd order airborne EM anomalies have been recorded in the three surveys completed. Much of this data has been suggested to be unreliable by previous workers but few of the anomalies have been evaluated in detail.

Little use has been made of the aeromagnetic data.

Geopeko recommended follow up on five areas. Limited follow up was completed on one area only and this work upgraded the prospect to drill or near drill status.

The Anglo field program returned gold results from pan concentrate sampling that are highly encouraging and suggest that gold mineralisation occurs within the EL or that the gold is derived from VHMS. A detailed pan concentrate sampling program is warranted and suggested for the entire E.L. area in the future. Many of the C-horizon auger cuttings showed a high iron content and there is a reasonable probability that base metal values will be documented by the analyses of the samples. The Condor regions prospectivity can be assessed when the results are returned.

The Thirkell Hill licence covers one the few remaining relatively unexplored areas of Mt Read Volcanics and the potential for locating economically viable VHMS deposits appears to be very good.

7.0 EXPENDITURE ESTIMATES

Category	Expenditure (\$) (approximate)
Drafting	4,100
Exploration - Surveying + gridding	730
General Expenses (mostly exploration related)	4,550
Geologists / Consultants	13,850
Literature and Research	3,700
Meals & Accommodation	1,800
Mineral Claim Maps	370
Mines Department Fees	100
Motor Vehicle Expenditure	1,270
Travel Expenditure (incl helicopter)	11,870
Assays	4,500
<b>Approximate Total</b>	<b><u>\$47,000</u></b>

## 8.0 REFERENCES

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