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PROGRESS REPORT  
EXPLORATION LICENCE 1/63

for  
six months ending

August 11, 1975

75-1115

Report by: K.G. Palmer,  
Cominco Exploration Pty. Ltd  
for  
Cleveland Tin N.L.

AMG REFERENCE POINTS ADDED

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1. SUMMARY

Exploration continued throughout the period on EL 1/63.

Reconnaissance grid line cutting and surveying has been temporarily suspended. 26.5 kilometres is completed in three areas, entitled Washington Hey, South Magnet Dam and Wombat.

Reconnaissance soil sampling is in progress in South Magnet Dam area.

Analyses of 478 samples are available. One anomaly requiring follow up is indicated.

Further analysis of the results of the aeromagnetic survey is in progress.

2. INTRODUCTION

Cominco Exploration Pty. Ltd., as exploration consultants to the Aberfoyle Group of companies, carries out exploration within EL 1/63 on behalf of Cleveland Tin N.L.

EL 1/63 is located 98 km SW from Burnie in north west Tasmania (41°28'S, 145°24'E). The licence expires August 11, 1975 and an application for renewal for six months has been made.

A. Previous Exploration

Reports by Ransom and Simpson (1973), Sale (1974), Stuart-Smith (1974) and Palmer (1975) detail previous exploration including line cutting, geochemical soil sampling and stream water and sediment sampling, and self potential and aeromagnetic surveys.

B. Objectives (this programme)

Intensive exploration was planned in areas indicated to be geochemically anomalous after a stream sediment sampling programme during the summer of 1974/75.

Processing of the results of the aeromagnetic programme was planned to eliminate the severe herring-bone effects exhibited by the contoured magnetic data. Ground follow up of anomalous units was planned to aid the continuing reappraisal of the regional geology.

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### 3. EXPLORATION AND DEVELOPMENT

#### A. Reconnaissance and Research

Study of the chemical and mineralogical variations within the Cleveland licence continued. Deeper development within the mine is providing additional information.

#### B. Geological Mapping

Following the initial presentation of the results of the aeromagnetic programme, remapping was carried out on major access routes east of Cleveland mine in an attempt to determine the source of the magnetically anomalous units on the west of the Meredith granite, in the Magnet Dam region.

Little change took place in the interpretation of the regional geology as a result of this programme. The rock units responsible for the magnetic anomaly are mostly arenaceous sediments, some of which contain up to 10% magnetite. Petrographic evidence is interpreted to indicate that the magnetite is primary, however, the rocks are generally moderately hornfelsed. Tourmaline occurs and in places the magnetite is recrystallised.

Several cut lines have been mapped in the Washington Hey area.

#### C. Geochemical Work

During the summer of 1974/75 exploration of two weak geochemical anomalies was continued to an advanced stage. In the course of this work orientation geochemistry was carried out on one prospect in an attempt to confirm the relative distribution of cassiterite in different soil horizons. It has been suggested that sampling of C Horizon in regions of moderate or low relief is most effective in locating cassiterite mineralisation. The orientation on the mine lease demonstrated that even in rugged country dispersion is no less in C Horizon than in A and in fact the order of anomaly is increased significantly. On this basis it was decided to change to C Horizon soil sampling in reconnaissance work on the Cleveland licence.

Line cutting and surveying (compass and tape) was carried out in 3 areas to facilitate reconnaissance geochemistry and geologic mapping.

Washington Hey

Five lines were cleared and surveyed for a total of 6600 line metres, covering a strike length of 800 metres.

South Magnet Dam

Twelve lines were cleared and surveyed for a total of 18.4 km covering a strike length of 2km.

Wombat Area

Three lines were cleared from the Ramsay river road to the east for a total of 4.8km covering a strike length of 1.5 km on the eastern margin of the Meredith granite.

Soil sampling by hand augering to C horizon was completed on the first four lines south of Magnet Dam, and is continuing.

Samples were analysed by emission spectroscopy for Sn Cu Pb Zn W and to date results of 478 sample analyses are to hand.

One coincident Sn Pb anomaly is evident with six consecutive Sn values being anomalous (highest value 500 ppm Sn). No significant W or Cu values are recognised.

The closest of the reconnaissance grid lines is being extended to cover the possible strike extent of the source of this anomaly and ground checking is planned. The soil anomaly is at the northern end of the zone of anomalous streams detected in the previous year's work.

It is planned to continue soil sampling in the South Magnet Dam and other areas during the next six months. Results will be assessed as they become available. Preparation of plans at 1:5000 scale to cover South Magnet Dam and Wombat areas is in progress and results of the sampling will be plotted when the plans become available.

D. Geophysics

Geophysical activity during the report period was designed to gather data on magnetic properties of rocks in the EL for incorporation into evaluation of the airborne magnetic survey flown in October, 1974.

Further reduction of the airborne survey data was initiated in order to remove the severe herringbone effects apparent in the contour plan. These effects originate from aircraft performance in the rugged terrain of the survey area, and can be removed by more thorough flight path recovery. These procedures were carried out with a marked improvement in data quality and clarification of anomalous trends (Plate CT 19A).

The accumulation of field data was necessitated by readily observed ambiguities between magnetic contour plans and regional geological mapping. Data were accumulated by geological traverse mapping (with some magnetometer traversing) and susceptibility measurements of selected rock suites from drill core and hand specimen samples.

The susceptibility measurements proved that the most magnetic rocks in the licence area are the arenaceous sediments containing magnetite, near Magnet Dam. The only other significant magnetic rocks are thin flows and tuffs within the deep creek basic volcanics. Ultramafics within the EL were shown to be poorly magnetic, which contrasts with the highly magnetic ultramafics within the flanking hazelwood complex.

As the results of this geological study are now to hand, a detailed analysis of the aeromagnetic data will be initiated during the next report period.

#### 4. FINANCE

Expenditure for the period February 12, 1975 to August 11, 1975 is as follows:

Geology	\$ 2,119
Survey	16,409
Geophysics	688
Geochemistry	11,797
Miscellaneous	1,460
Tenure	152
	<u>\$32,625</u>

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5. CONCLUSIONS

Stream sediment geochemistry and geologic mapping together with results of the aeromagnetic programme have focused attention on two areas, the South Magnet Dam area and the Washington Hey area. Both have high exploration Potential. Initial reconnaissance soil sampling suggests that the potential of the South Magnet Dam area may be upgraded. Completion of the current reconnaissance soil sampling programme is expected to define targets for intensive exploration.

6. REFERENCES

- Ransom, D.M. and Simpson, D.C. (1975) Progress report - Cleveland Tin N.L. 6 months ending June 30, 1973. CEPL unpublished report to Tas. Mines Dept.
- Sale, R.V. (1974) Progress report - Cleveland Tin N.L. 6 months ending December 31, 1973. CEPL unpublished report to Tas. Mines Dept.
- Stuart-Smith, P.G. (1974) Progress report - Cleveland Tin N.L. 6 months ending June 30, 1974. CEPL unpublished report to Tas. Mines Dept.
- Palmer, K.G. (1975) Progress report - Exploration Licence 1/63, Cleveland Tin N.L., period ending February 11, 1975.

7. ATTACHMENTS

- ✓ CT 19A Aeromagnetic Contour Map - Cleveland licence area.
- ✓ CT 33 Exploration Summary Map.

Submitted K.G. Palmer  
K.G. Palmer  
Project Geologist

Endorsed: L.V. Gentle  
L.V. Gentle  
Chief Geologist



EL. 1/63

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CLEVELAND TIN N.L.

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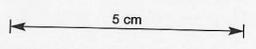
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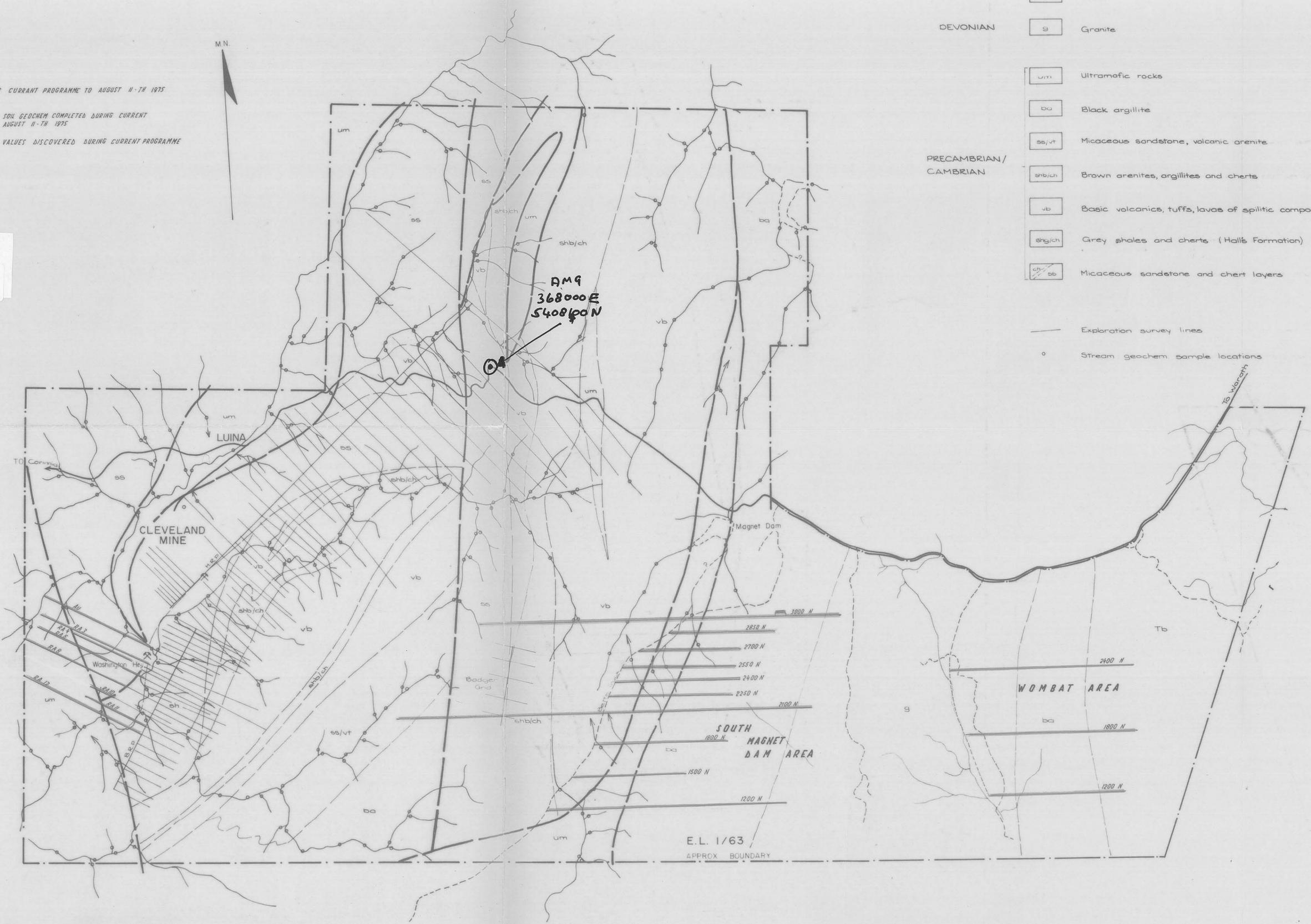
——— LINES CUT DURING CURRENT PROGRAMME TO AUGUST 11-TH 1975  
 ——— RECONNAISSANCE SOIL GEOCHEM COMPLETED DURING CURRENT PROGRAMME TO AUGUST 11-TH 1975  
 ◯ ANOMALOUS Sn VALUES DISCOVERED DURING CURRENT PROGRAMME



AMG REFERENCE POINTS ADDED



- TERTIARY Tb Basalt
- DEVONIAN S Granite
- um Ultramafic rocks
- ba Black argillite
- ss/vt Micaceous sandstone, volcanic arenite
- shb/ch Brown arenites, argillites and cherts
- vb Basic volcanics, tuffs, lavas of spilitic composition
- sh/ch Grey shales and cherts (Hall's Formation)
- ch/ss Micaceous sandstone and chert layers
- Exploration survey lines
- Stream geochem sample locations



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 EL. 1/63  
 EXPLORATION SUMMARY MAP  
 CURRENT PROGRAMME TO 11-11-1975  
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