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COMINCO EXPLORATION PTY. LTD.

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CLEVELAND TIN N.L.

Report

by

TASMANIAN MINES DEPARTMENT

for

period ending February 9, 1972

on

EXPLORATION LICENCE 1/63

Luina

County of Russel

Tasmania

Prepared on behalf of Cleveland Tin N.L. by  
Cominco Exploration Pty. Ltd.  
February 9, 1972

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COMINCO EXPLORATION PTY. LTD.

This report comprises-

1. Results of prospecting in the Magnet Range region, at the north end of EL Area II, and in EL Area I.
2. An illustration of past exploration results in EL Area II, in map form at a scale of 1" to 500 ft., together with some notes on the limitations of previous geological work when used to assess available geochemical data.
3. An outline of the exploration programme approved for the Calendar year 1972, (budget \$20,000) together with comments on the early findings from this work, now underway.
4. A financial statement covering principal expenditures incurred on EL1/63 for the six months to February 1972.

Attached is an illustrative plan, to scale 1"=500 ft., showing in summary form results of exploration programmes within Area II of EL1-63 up to August 1971.

REPORT ON OPERATIONS WITHIN EL1/631. Holder

Cleveland Tin N.L. holds occupancy rights to February 9, 1972, on both portions of EL1/63. An application for licence renewal over the total area has already been forwarded.

2. Metals

Unspecified: to search for "mineral potential" excluding coal and oil.

3. Location and Area

"Area I" The NW margin is the Waratah-Corinna road, within the interval 3 m. to  $4\frac{1}{2}$  m. from Waratah. The area is a strip  $\pm 1$  m. wide, which runs south from the road for about 2 miles.

"Area II" The Waratah-Corinna road enters Area II about 7 miles from Waratah and leaves it about  $1\frac{1}{2}$  miles on the Corinna side of the Township of Luina.

Area II entirely surrounds Cleveland mine lease, number 27M/71.

Total area: approx. 20 square miles. *43m/66*

4. Exploration Activityi) Prospecting and Reconnaissance

In the MAGNET RANGE area (within EL1-63 "Area II") M. and S. Explorations completed a programme which comprised

- . the rehabilitation of 11 old lines G21 to G31,
- . the rehabilitation of the old base line
- . 200 ft. of new line on G25

for a total of 38,600 feet, together with

- . new lines MR1 to MR5 - total 9,400 ft.
- . soil sampling at 200 ft. intervals on all cross-lines, although only 215 samples were collected
- . ground magnetics on all cross-lines, plus reconnaissance geological information.

This work was carried out in the period July 24 to mid August, 1971.

Results:

Contours of the analytical results for Cu and Zn are superimposed where shown on the 1" to 500 ft. illustration prepared by CEPL.

At this point in time, no attempt has been made to assess this data. When examining the results it is to be remembered that

- . samples were at 200 ft. intervals
- . samples were reported taken at a uniform 12" depth, regardless of humus depth.

M. and S. Explorations followed the above programme by a similar reconnaissance programme over EL1-63 "Area I", which included

- . base line survey - 9.750 ft.
- . 7 cross-lines (for a total of 26,600 feet) at approximately  $\frac{1}{2}$  mile intervals. Three of these cross-lines use the Waratah-Corinua road as commencement point.
- . soil sampling at 200 ft. intervals along the cross-lines
- . ground magnetics on all cross-lines, coupled with some geological information on lines 4, 5, 6, and 7. The button grass areas of the Badger Plain precluded geology on lines 1, 2, and 3.

**Results:**

136 samples were analysed for Cu and Zn with overall uninteresting results. There appears to be less uniformity in the results away from the Badger Plain area. Occasional results exceed 2 or 3 times apparent background levels. Again no evaluation of these results was possible.

However, sedimentary rocks were observed among volcanics and intrusives, and for this reason alone the area warrants further examination to confirm geology by bedrock exposures at suitable intervals.

- ii) Geological mapping  
No new work recorded, except as above.
- iii) Geophysics  
M and S Explorations completed ground magnetics on Area I: 7 lines - total 26,600 ft., with readings at 50 ft. intervals along each line.  
on Area II, at Magnet Range:  
16 lines - total 48,000ft., with readings at 50 ft. intervals along each line.
- iv) Geochemistry  
Field
- . Magnet Range Area - 215 samples were collected, of which 213 were analysed for Cu, Zn.
  - . EL - Area I - 137 samples were collected, of which 136 were analysed for Cu and Zn.
  - . Check pitting in the SE Extension (over 5

short lines)

Pits at 5 metre intervals - 108

No. of samples collected from pits = 347

Analyses currently available for  
201 (of 347) samples - Cu, Zn Mn Ni

. Orientation work

Line QA	31 pits @ 5 m.	92 samples
Line X	20 pits @ 10m.	65 samples
Line W	18 pits @ 10m.	53 samples

Comments on results of analyses are included under discussion on present programme below.

5. Assessment

a) Re-assessment of past exploration activity

All data made available by Cleveland Tin N.L. is collated for illustrative purposes on the accompanying map, scale 1"=500 ft.

Up to November 1971, the soil geochemistry results and ground magnetics data were considered in conjunction with the interpretive geological map by R. Cox, scale 1"=500 ft. developed from fact maps at scale 1"=100 ft., most of which were completed in July, 1966.

Copies of these fact maps (35 sheets scale 1"=100 ft.) were forwarded to the Mines Department in December 1968.

A re-examination of these fact maps shows that

- . extensive areas of the interpretive map are based on relatively few surface exposures in those respective areas.
- . the greater proportion of fact geology available occurs in a strip sub-parallel to the regional strike, and considering the overall EL, cross-strike data is not extensive.
- . fact geology is frequently quite limited in areas where geochemical anomalies are recorded.

Hence, the exploration programme for 1972 is aimed at improving the fact mapping, and so improve the early evaluation or screening of each of the numerous geochemical "anomalies" which occur along the entire strike length from Washington-Hey to Magnet Range, and are untested.

These "anomalies", their extent and position are illustrated on the plan, scale 1"=500 ft.

Also positioned are BMR (1953/54) SP anomalies, as yet untested, which require check geology and/or geochemistry prior to recommendations for test drill hole(s) in 1972.

b) The current programme and results to date

A \$20,000 expenditure is proposed for 1972, for work on the EL only. This parallels a programme to re-assess geochemical targets within the mine lease, also underway in 1972. Both programmes are expected to benefit from a limited geochemical orientation programme over the Cleveland mine.

The proposed programme covers:

1) Surveying

About 60,000 ft. of new line, plus clearing out of old line, will give 10 cross-strike lines at about 1000 ft. intervals, between Wamington-Hey and Whyte Hill. These lines will extend known geology eastwards to the EL boundary.

Some of the lines proposed and those completed by February 9, are shown on the accompanying plan.

In addition, specific sections of old lines were repositioned, prior to check geochemistry - parts of lines AD, AG, AH, AL and AN.

ii) Geology

It is proposed to re-map selected sections of old lines, by pitting to the depth required. As detail on old lines is important in these selected intervals, pits will be at about 15 ft. intervals. Pits on lines AD to AN have demonstrated Hall's formation rocks (including metasomatic pink cherts) occur further east than expected, and the technique is a useful one.

Mapping along new lines (going east) will follow the survey work. The pitting technique will be adopted if exposure is too sparse, but the pits will be more widely spaced.

Preliminary reconnaissance along surveyed sections of new lines QA and AH suggest that mapping within a zone 50 ft. either side of the cut line will produce sufficient exposures, even though exposure along the line itself is generally poor. A limited amount of pitting will be necessary, but in specific sections.

Geology on cross lines is about to commence, following completion of initial survey work on QA and AH.

iii) Geophysics

None was proposed in the work approved for 1972.

However, the early results from the check geology-geochemistry confirm a need for an additional screening technique prior to drilling. Self potential is the logical first choice, and we will probably apply this tool when the wet weather re-commences.

iv) Geochemistry

Past soil sampling programmes produced a number of (untested) Cu and Zn (soil) anomalies, as illustrated on the plan, scale 1"=500 ft.

Two or more check lines are proposed in a number of these anomalous areas. The effectiveness of soil sampling will be tested by pitting at about 15 ft. (5 metre) intervals, to allow sampling of the soil profile and of bedrock.

This check pitting was recently completed along short sections of lines AD, AG, AH, AL and AN. (Samples collected for bedrock geochemistry were also used for geological mapping purposes)

347 samples were collected from 108 pits on 5 lines. Drawings to illustrate this work will accompany the next report.

Normally 3 samples were collected from each pit:

- a shallow humic-rich soil sample
- a deeper, clay rich soil
- weathered bedrock

The -80 mesh fraction of the two soil samples analysed, all for Cu Zn Mn and Ni. The Ni analyses were an attempt to differentiate basic-volcanics from Hall's formation rocks, which was unsuccessful and no further Ni analyses are proposed. The soil samples show the same trend as the weathered bedrock samples, but anomaly contrast increases with depth of sample. The majority of high Cu-Zn values appear to originate from the basic volcanics. However, these are on lines AG and ?AH indications of anomalous Hall's Formation rocks. A gossanous sample on line AG is strongly anomalous in Cu (575 ppm) and will be analysed for Sn.

The early conclusions are that Cu-Zn geochemistry is not sufficiently specific as an exploration tool for Cleveland style mineralisation because of the spurious anomalies due to basic volcanics. The conclusions are expected to be confirmed when orientation results are available.

Analyses for elements other than Cu Zn may be more specific indicators of the Cleveland type mineralisation, and be more effective as an exploration tool. (We are also considering the value of SP geophysics as a reconnaissance tool subsequent to geology but prior to geochemistry.)

v) Drilling

Where there is support for an existing anomaly, shallow test drilling will follow. Allowance was made for site access and the drilling of 8 x 200 ft. test holes - one or two holes per anomalous zone - during 1972.

Note: To conclude any proposed drilling before November 1972 (as scheduled) will require crews on the licence area more or less continuously during the winter months.

6. Manpower (in Field)

1. Magnet Range area est. 3 weeks x 4 men
  2. Area I Reconnaissance est. 2 weeks x 4 men.  
(excluding lost time due to poor weather = 4 weeks)
  3. Cominco activity\*, 1972. to February 9.
 

Survey	15 man weeks
Check geochemistry	3 man weeks
- \*assessment work excluded.

7. Statement of Expenditure

	\$	¢
1. Magnet Range Area.		
. Balance of contract payment to M. and S. Explorations	4750.00	
. Geochemical analyses		238.48
2. Area I Reconnaissance		
. Contract payment, M & S Expln.	7350.00	
. Geochemical analyses		96.48
3. Supervision charge in 1971		
. At Cleveland Mine (geologist, vehicle, office misc. cost) estimate		375.00
. Aberfoyle Management		807.00
4. Cominco Exploration charges in 1972		
. Survey (to January 20, 1972)		624.38
. Geochemistry	not available	
Total expenditures (incomplete)	\$14,241.34	

Prepared on behalf of Cleveland Tin N.L. by  
Cominco Exploration Pty. Ltd.

*Frederick L Hunt*

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F.L. Hunt  
Administrative Engineer  
COMINCO EXPLORATION PTY. LTD.

Submitted in accordance with the provisions  
of Exploration Licence 1-63, County of Russel.

*K.J. Carter*

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K.J. Carter  
Manager  
CLEVELAND TIN N.L.

FLH: ik

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72-845

OS 2211

NOTE:- ALL CORRESPONDENCE TO BE ADDRESSED TO THE DIRECTOR OF MINES

784010



DEPARTMENT OF MINES

TELEPHONE: 30 9011

G.P.O. BOX 124 B  
HOBART  
TASMANIA 7001

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24th February, 1972

The Director of Mines,  
HOBART

D. MIN.	A.O.	CC & M	D.S.M.E.
RECEIVED		Registrar	
ANSWERED		E & M	
24 FEB 1972			
DEPT OF MINES			
REF. No. 992/72			

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*EC 1/63*  
*has been*  
*extended.*  
*Dir has*  
*had a*  
*talk to*  
*Cleveland*  
*Apparently*  
*business*  
*are to*  
*step up*  
*activity*  
*on the*  
*area*  
*AB*

Re: Exploration Licence 1/63

It appears to have been the policy of Cleveland Tin N.L. and its successors to forward very brief summaries of the work carried out on E.L. 1/63 during the six months immediately preceding licence renewals.

Usually, as in the case of this report, details of future work programmes are also given, in the main, of a satisfactory standard.

However this Department has no record of what sampling has been carried out, sample locations, assay results, geophysical grids techniques or results, except for generalisations such as those on pages 4 and 5 of this report.

Should the licence be dropped there would be no way of locating any of this work without a major survey being carried out by further interested parties.

There apparently has been little or no geological mapping since that done by R. Cox in 1966, the greater majority of geological investigations being restricted to mineral lease 43M/66 as indicated in the summary report for period ended August 1971.

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From Department of Mines, Tasmania, to...The...Director...of...Mines...Hobart.....

The Department has the logs of three diamond drill holes in the Magnet mine area but again has no locality map of the area. Co-ordinates are given on the log sheets so these could be plotted on the map included herein but this would not assist in determining what targets were selected or why.

In the 9 years this exploration licence has been in force the only detailed information supplied has been the set of fact maps of R. Cox dated 1965-66. There has not been detailed report on the licence although several comprehensive reports on various aspects of the mine development have been received.



(A.J. Noldart)

SUPERVISING GEOLOGIST

