

ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LIMITED  
WEST COAST DEPARTMENT

**INTERIM REPORT**  
**on**  
**RED HILLS PROSPECT – SPL 302**

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INTERIM REPORT ON RED HILLS PROSPECT

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NOT PROVIDED WITH THIS REPORT

## INTERIM REPORT ON RED HILLS PROSPECT

### Summary

Geological mapping, 850 ft. of diamond drilling and radioactive prospecting have not revealed significant mineralisation to date. Regional mapping has outlined the structural picture around the prospect and located a more favourable horizon within the pyroclastic rocks which merits further investigation.

### History

The Red Hills area was first prospected for copper in 1891. During the period 1897-1900 the Red Hills Mining Company tested the then known deposits by six adits and several opencuts and simultaneously three smaller Companies prospected the adjacent areas. In 1907 the Mt. Lyell Mining and Railway Company extended two of the adits, opened up several trenches and crosscut from a winze. The openings were systematically sampled before the title was allowed to lapse. There is no record of any production and small quantities of copper mineralisation remain stacked by the workings from which they were removed. It is believed that if mineralisation of this nature were to encounter a favourable bed, it could produce an economic ore body.

### Geology

The area mapped is predominantly massive and sheared pyroclastic rocks of Dundas Group (Upper Cambrian age). These are overlain unconformably by breccias and conglomerates of the Owen Group (of Ordovician Age). These latter rocks do not appear to be favourable host rocks and the search for mineralisation, favourable structures and rock types has been largely confined to the pyroclastic rocks.

The immediate vicinity of the Red Hills workings has been mapped on 100 Sc (see plate 1.) and gridded radiometrically by geiger counter (see plate 2.) The gridding has revealed areas of twice background radioactivity and it is proposed to retrace these areas with a more sensitive instrument. Radio-activity has been shown to be due to Gummite (an alteration product of Uraninite or Pitchblende) which is associated with the Red Hills copper mineralisation (South Australian Mines Dept. Report.) In addition, local

limited radioactive "highs" are thought to be the radioactive gas Radon escaping along fissures.

Intense chloritisation of the pyroclastic rocks in the immediate vicinity of the workings has brought with it the sporadically distributed chalcopyrite and pyrite. Drillhole RHP 94 (see plates 1. & 3.) was sited to test below the best of this mineralisation in blocks 132N 108E and 133N 108E but failed to encounter significant mineralisation.

A broader regional area has been mapped on photo scale (20 chains = 1") in an effort to locate other favourable beds and/or structures relative to the Red Hills mineralisation (see plate 4.) The Dundas rocks mapped consist almost entirely of lavas and agglomerates but slates with minor interbedded sandy tuffs have been located extending from 1500S 18,300E H.G. to 3000S 18,800E H.G. Further slaty rocks at 5,250S 19,200E H.G. were located by Rio personnel and it is possible that these two outcrops may be part of the one bed - in which case a sedimentary series of a strike length of 4500 ft. dipping westward at 53° and up to 100 ft. wide is present.

Shear zones, rendering the pyroclastic rocks more favourable and permeable to mineralising solution have been mapped (see plate 4.) and the structural pattern of the area interpreted. The zones of shearing have been developed as a result of the movement on the Lyell shear. Trace mineralisation of lead and zinc has been noted in fissures in the pyroclastics at 3000S 17,700E H.G. (plate 4.) and is the possible indicator of mineralisation at depth (see plate 5.)

#### Future Program

1. Retraversing of the known radioactive area with the more sensitive scintillometer when it becomes available, to delineate more accurately the "hot" areas.
2. Drillhole RHP 94 is being continued to test (at depth) a shear zone carrying haematite magnetite mineralisation on the eastern side of the workings. Its surface expression is seen in blocks 136N 112E and 137N 112E (plate 1).
3. To prove the continuity of the two slate outcrops mentioned above. This will require the traversing of the creeks in the heavily timbered area between co-ords 2500S 18,500E and 6,300S 19,200E H.G. and in some cases the clearing of lines to verify the information obtained from the creeks. These more favourable slates are intersected by the

the shear zone at depth and it is believed that such an intersection could be the locus of economic mineralisation (see plate 5.) in view of the trace mineralisation noted in unfavourable rocks mentioned above. The intersection of the slates with the shear zone is north pitching and the deeper reaches of the slates (if present) will be exposed in the deep valleys of the heavily timbered zone - which is to be mapped initially on photo scale.

Acknowledgement

1. The Historical section of the above report was derived from F. Blake (1938) "Report on the Red Hill Copper Deposits."

2. Some aspects of plate 4. are a result of discussion with Rio Tinto personnel, and in particular D. King.

ROSEBERY, 14th May, 1958.