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FINAL REPORT

GOVERNOR RIVER EL 30/83

TASMANIA

AMG REFERENCE POINTS ADDED

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Cyprus Minerals Australia Company

PART PROJECT A-84-111

FINAL REPORT

GOVERNOR RIVER EL 30/83

TASMANIA

P JONES
CONSULTANT TO CYPRUS MINERALS

NOVEMBER 1986

REPORT 506

CYPRUS

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SUMMARY AND CONCLUSIONS

It is recommended Cyprus relinquish title to Governor EL 30/83. No field work was undertaken during the period as EZ, Cyprus' joint venture partner, withdrew from the venture. A substitute partner was sort to commence further exploration, however none was forthcoming and management decided to cancel the licence tenure.

RECOMMENDATIONS

It is recommended Cyprus relinquish the title to EL 30/83 prior to its renewal date.

EXPLORATION TARGET

The tenement was staked to cover prospective Gordon Limestone sequences south of those covered by Cyprus' Princess River tenement. The carbonate sequence was considered to have potential for hosting an Irish style or carbonate/shale hosted lead-zinc deposit.

DESCRIPTION OF THE PROPERTY AND OWNERSHIP

Cyprus Minerals Australia Company applied for a 249 square kilometer exploration licence (EL 30/83) embracing potential host rocks for Irish style lead-zinc mineralization. The licence was granted to Cyprus for a period of 12 months from October 1983. A description of the property is as follows:

Commencing at the southwest angle whose grid co-ordinates are 386000mE, 5324800mN thence grid north to 5332050mN thence grid west to 385785mE, grid north to 5335770mN, grid east to 388025mE, grid north 5341285mN, grid north 5341285mN, grid east to 388750mE, grid north to 5346000mN, grid east to 393000mE, grid south to 5341000mN, grid east 394000mE, grid south 5337000mN, grid east to 395000mE, grid south 5336000mN, grid east to 396000mE, grid south 5334000mN, grid west to 394000mE, grid south to a point on

the boundary of the southwest Conservation Area whose co-ordinates are 394000mE, 5326900mN thence in a general westerly direction along this boundary to the point of commencement. This being Part A of the tenement.

Part B of the tenement commences at a south westerly angle whose co-ordinates are 386000mE, 5301800mN thence grid north to 5317600mN being a point on the southwest Conservation Area boundary thence in a general southerly and later northwesterly direction to the point of commencement.

The tenement was immediately incorporated into the existing Cyprus (formerly Amoco) EZ joint venture and was explored concurrently with both the Macquarie and Princess River licences.

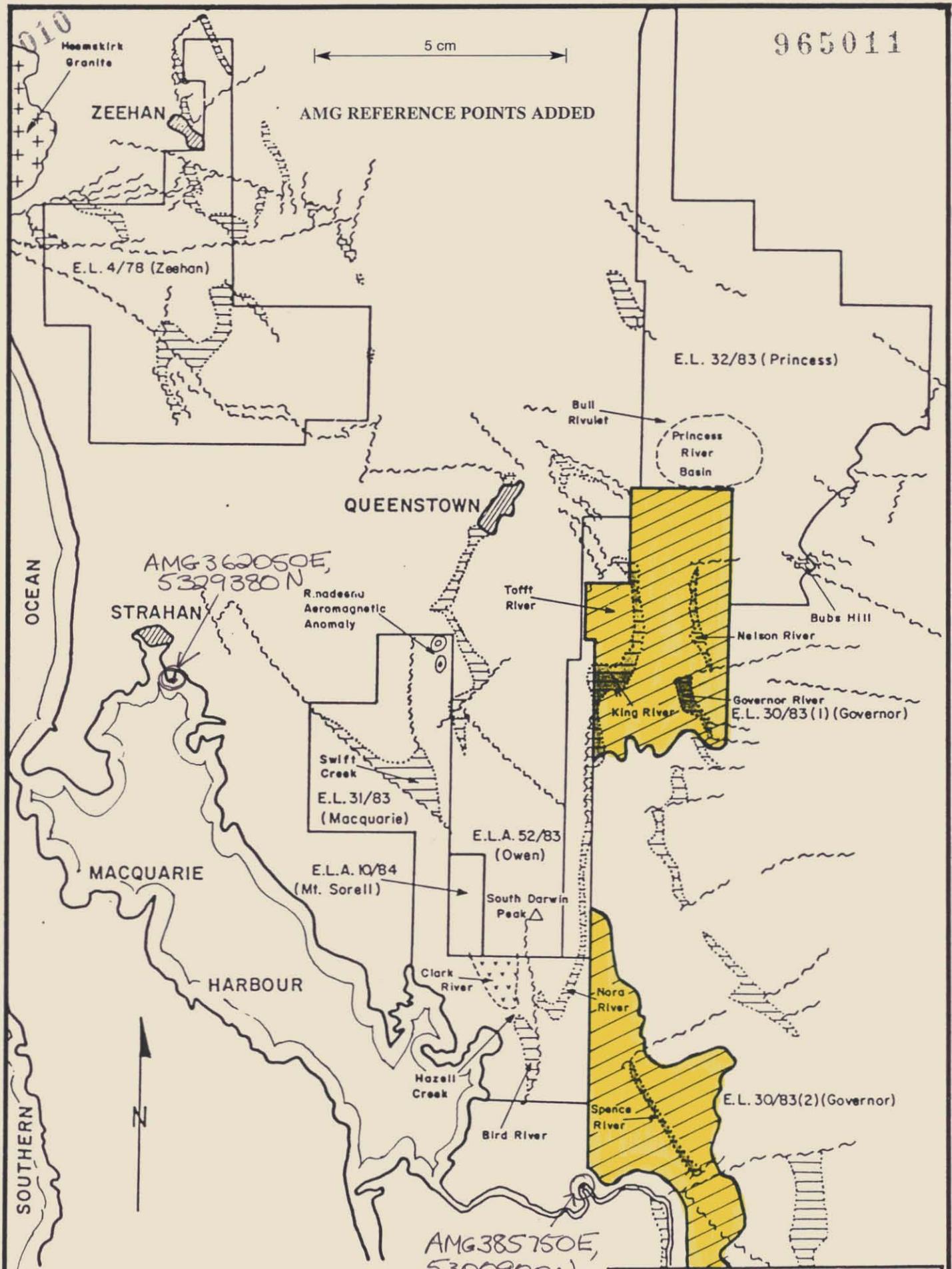
EZ managed the exploration programs which were conducted during 1984 and 1985. EZ withdrew from the joint venture late in 1985 to concentrate their activities on EL 4/78 (Zeehan).

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LOCATION AND ACCESS

The Governor exploration licence lies approximately 10 kilometers east to southeast of Queenstown, west Tasmania. It extends as far south as the Franklin-Gordon Rivers junction and is roughly centered on the HEC township of Crotty.

Access within the tenement is reasonable with limited access being gained from HEC roads to dam sites, the Crotty town and also previous tracks cut or dozed by earlier workers. The bulk of the limestone is covered by button grass and foot access and helicopter support were the main methods used to explore the region.



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AMG REFERENCE POINTS ADDED

ZEEHAN

E.L. 4/78 (Zeehan)

E.L. 32/83 (Princess)

QUEENSTOWN

AMG 362050E,
5329380N

STRAHAN

R. nadeeru
Aeromagnetic
Anomaly

Tofft
River

Princess
River
Basin

Nelson River

Governor River
E.L. 30/83 (1) (Governor)

King River

Swift
Creek
E.L. 31/83
(Macquarie)

E.L.A. 52/83
(Owen)

E.L.A. 10/84
(Mt. Sorell)

South Darwin
Peak

MACQUARIE

HARBOUR

Clark River

Nora River

Hazell
Creek

Bird River

Spence River

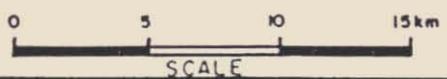
E.L. 30/83(2) (Governor)

AMG 385750E,
5300900N

OCEAN

SOUTHERN

- ~ FAULT
- ▨ GORDON LIMESTONE
- ▨ MT. READ VOLCANICS



PROJECT GORDON LIMESTONE J.V.	
LOCATIONS	
Compiled S.T.	Date
Drawn R.J.R.	Scale
Fig. 1	

HISTORY AND PREVIOUS EXPLORATION

No exploration activity, old workings or mineral occurrences have been reported from any of the limestone areas. A small adit and winze are exposed in a cutting on the new HEC Crotty Road. These workings are in sandstone of the Crotty Quartzite.

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REGIONAL GEOLOGY AND MINERALIZATION

The regional geological setting is related to Paleozoic volcanic and sedimentary processes in a linear trough (the Dundas Trough) along the western margin of the Precambrian Tyennan nucleus composed of metamorphosed siltstones and quartzites. Early Cambrian sedimentation includes sandstone, shale and carbonates (Success Creek Group) followed by mudstones, greywacke and basic volcanics (Crimson Creek Formation) and in the middle to late Cambrian mudstones, conglomerate and minor volcanics of the Dundas Group. The associated calc-alkaline Mount Read Volcanics developed on the shallow water eastern margin of the trough sediments adjacent to the Precambrian nucleus. The volcanics interfinger with or are faulted against the Cambrian sediments (Upper Dundas Group) to the west and are composed of rhyolite, dacite, intermediate rocks and basalt in the form of lava flows, breccias, tuffs and plugs.

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Sedimentation continued in the late Cambrian to Ordovician with deposition of siliceous sands and gravels (Owen Conglomerate) then shallow water limestones and shales (Gordon Limestone) with associated lead-zinc mineralization. In the Silurian and Devonian sandstones and siltstones of the Eldon Group were deposited.

Folding and faulting of the above sequences and post tectonic granitoid intrusives occurred during the mid Devonian Tabberabberan Orogeny.

All known metal mines and prospects in the region occur in late Precambrian to late Devonian rocks. Base metal and gold production is dominated by the Mount Lyell, Rosebery and Que River mines (Table 1).

TABLE 1 BASE METAL AND GOLD PRODUCTION - TASMANIA WEST COAST

Mine	Gross Reserves (million tonnes)	Grade
Rosebery	18.4	5.6% Pb, 18.2% Zn, 0.7% Cu, 187 g/t Ag, 3.4 g/t Au
Mt Lyell	147	1.5% Cu, 8 g/t Ag, 0.4 g/t Au
Que River	6	7% Pb, 12.5% Zn, 0.4% Cu, 171 g/t Ag, 3.5 g/t Au
Hellyer	25+	7% Pb, 14.0% Zn, 0.3% Cu, 180 g/t Ag, 2.5 g/t Au

These are volcanogenic massive sulfide deposits hosted by the central parts of the Cambrian Mount Read Volcanics, a sequence of felsic breccias, tuffs and lavas with minor siltstone. The deposits are characterized by large tonnage and area and are finely layered with generally high zinc-copper ratios. Typical mineral assemblage is pyrite, sphalerite, galena and chalcopyrite with silica and barite gangue minerals.

WORK CONDUCTED BY CYPRUS

As managers of the joint venture EZ conducted regional surveys over four main areas during the 1983-84 and 1984-85 summer periods.

The exploration philosophy was to establish the lead-zinc potential of the Ordovician limestones and clastic rocks in the areas of Governor, King, Spence and Nelson Rivers (Figure 1).

The following is a brief summary of work conducted on these prospects. A detailed account can be found in EZ reports T187 Progress Report on Exploration Activity October 1, 1983 to March 30, 1984, Spence River Area EL 30/83; T188 Progress Report on Exploration Activity October 1, 1983 to March 30, 1984, Nelson River Area EL 30/83; T189 Progress Report on Exploration Activity October 1, 1983 to March 30, 1984, King River Area EL 30/83; and

T190 Progress Report on Exploration Activity October 1983 to March 10 1984, Governor River Area EL 30/83.

Reconnaissance and wide spaced gridding surveys including rockchip, stream sediment, panned concentrate, soil sampling, ground magnetic and geological mapping surveys were undertaken. Field work varied with vegetation assemblages and most areas required helicopter support with foot surveys being used on grids. Foot tracks and helipads were cut prior to exploration activities.

Rock, stream and soil samples were analyzed for copper, lead, zinc, silver, iron, manganese and barium by Analabs of Burnie using AAS techniques.

Panned concentrates were submitted for heavy mineral identification and a number of rock samples were described in thin section.

Ground magnetic surveys were conducted over the gridded areas.

Governor River Area (1983-84)

The apparent thickened limestone sequence beside a prominent fault suggested there was potential for finding an Irish style base metal deposit.

A 3.6 kilometer long grid was established and soil sampled with 'C' horizon samples were collected at 20 meter intervals. Stream and rockchip samples were also collected over the gridded area.

Mapping surveys showed outcrop from the Gordon Limestone was conspicuous by its absence with large coalescing alluvial fans being developed over the less resistant limestone. Post dolomite sideritic alteration and conspicuous syngenetic pyrite were observed from the sparse outcrops.

No rockchip samples reported any anomalous value. Two weakly anomalous lead values were returned from the stream sediment survey. These appear to drain Eldon group sediments (Siluro-Devonian).

Only three soil sample sites proved anomalous with values ranging up to 420 ppm lead, 120 ppm zinc and 3060 ppm barium. The remaining sites failed to penetrate the thick alluvial, elluvial and talus deposits covering the prospective horizon. As well no minerals indicative of sulfide mineralization were detected in the panned concentrate samples.

Ground magnetic surveys showed the limestone to be non-magnetic with very flat gradients being delineated.

Many areas underlain by limestone were not tested due to thick talus and alluvial deposits. Nevertheless no clear indications of carbonate hosted exhalative lead-zinc deposits were detected. Follow-up work was recommended by EZ over the anomalous soil values, however no program was undertaken.

King River Area (1983-84)

The King River area was selected for exploration because of its structural complexity and apparent thickening of the limestone.

Four 800 meter spaced reconnaissance grid lines were staked over the complex zone and geological mapping, rockchip and magnetic surveys conducted. Soil samples were not taken due to extensive, thick fluvioglacial deposits. Mapping surveys showed the structurally complex zone, possibly a thickened section of limestone adjacent to a major fault, is well cleaved and folded with its western boundary being fault bounded (Great Lyell Fault). The eastern margin of the limestone appears conformably overlain by Silurian Crotty Quartzite. Minor syngenetic pyrite is observed as well as minor quartz-carbonate filled vughs due to dolomitization. Rockchips returned no anomalous values. However

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decomposed limestone (pugh) showed minor elevated lead and zinc values which are thought to be due to the removal of carbonate material from the clastic limestones.

Ground magnetic surveys showed minor noise and a gentle gradient towards the western Cambrian Volcanic suite.

No encouragement was forthcoming from the above program and no further field work was recommended.

Nelson River Area (1983-84)

Limited ground work including reconnaissance rockchip, stream sediment and mapping surveys over the narrow prospective limestone sequence.

Rockchips returned no anomalous values. Partially dolomitized quiet water limestones were mapped with more argillaceous intervals showing boudinage effects. A distinct cleavage is developed with no indication of mineralization being detected.

No further field work was recommended.

Spence River Area (1983-84)

Field mapping has confirmed the occurrence of Gordon Limestone in the Spence River area. Stream sediment, panned concentrate and rockchip sampling surveys showed one weakly anomalous zinc value. Some of the panned concentrate samples contained up to 15% sulfides including pyrite, pyrrhotite and possibly sphalerite.

Follow-up of the indirect signs of mineralization in this area was considered to be of low priority. No program for further exploration in the area was proposed.

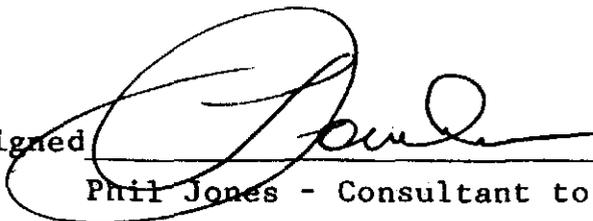
Other (1984-85)

Mines Department geologists brought to EZ's attention the 'discovery' of lead-zinc mineralization within the Gordon Limestone south of the Andrew Divide near Crotty. EZ inspected the location and suggested the occurrence was more likely to be transported material dumped whilst improving the main road. A source was suggested near Lynchford south of Queenstown.

EXPLORATION POTENTIAL

The tenement is considered to have little potential in hosting a significant carbonate or VMS hosted lead-zinc deposit. Furthermore as most of the area covered by the Governor River tenement will be partially flooded by the King River dam development EZ decided to curtail further exploration.

Signed



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Phil Jones - Consultant to Cyprus Minerals