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GEOPHOTO MINERALS REPORT 1972/23

BALD HILL ELUVIAL
TIN PROSPECT
E.L.6/68 - N.E. TASMANIA

PREPARED BY

GEOPHOTO RESOURCES CONSULTANTS

FOR

TEXINS DEVELOPMENT PTY. LTD.,

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NOVEMBER, 1972

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CONTENTS

	<u>Page</u>
INTRODUCTION	1
PROGRAMME	1
RESULTS AND CONCLUSIONS	2

APPENDIX I

COSTEANING ON BALD HILL

APPENDIX II

LOCATION OF SAMPLE HOLES, DRG. NO. 1/149

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INTRODUCTION

The Bald Hill Prospect which lies some 3 miles to the S.W. of Weldborough was first investigated for its hard rock possibilities for tin and copper. (Reports 1970/24, 1970/24A, 1971/31).

During this exploratory work involving rock and soil geochemistry and diamond drilling, there were indications that the area could be looked upon as one which might yield a tin deposit of the eluvial/residual type.

Soil sampling of Grids A, B, C and D had indicated tin values in excess of 1lb. SnO₂/c.y. over much of the prospect area, although with a patchy distribution. In the later diamond drilling programme, Bald Hill D.D.H.3 had encountered soft decomposed granites to a depth of 178 feet which on drilling had been reduced to a coarse micaceous sand. Sludge samples recovered from various intervals to this depth were assayed and yielded encouraging tin values.

Following the recovery and assay of further surface samples from randomly selected spots across the area, it was decided that there was sufficient data to warrant a comprehensive study. This commenced in July, 1971.

PROGRAMME

Initially it was planned to bulk test the residual soil and underlying decomposed granites by sluicing but the stony nature of the material presented problems which could only be surmounted by the acquisition of the appropriate equipment, which at this stage of the exploration was not warranted.

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The programme was then revised to enable the collection of smaller samples (to 1 cu.ft) over the whole prospect area on set grid patterns.

A backhoe was used to dig holes on selected sites allowing for the sampling of the various horizons present - one or two distinct soil horizons and one decomposed granite section.

Record was kept of the depth and nature of the individual horizons in any one hole, the type of basement granite and an estimation of the boulder content within the sample.

After recording the volume, each sample was sluiced and panned to a heavy mineral fraction at St. Helens before assay in Brisbane.

The depth of the holes excavated varied between 6 inches and 7 feet 6 inches with the residual soil cover rarely extending below a depth of 3 feet 6 inches. An average depth for the residual soil was later calculated to be approximately 19 inches.

During the initial phase of work a total of 307 holes were completed with the collection of 386 samples.

Later in the year, areas previously inaccessible to the backhoe were sampled by hand. In this second phase a further 114 holes were dug and sampled.

RESULTS AND CONCLUSIONS

Assays of the samples recovered revealed that tin values, whenever present, were located in the upper residual soil horizons, i.e. the upper 19 inches (average).

All assays were converted to a grade (\$ per cubic yard) based on a metallic tin price of \$1.25 per lb. with a cut-off value of 50¢/c.y. ~~_____~~

A plot of tin values further revealed that economic grades are restricted to isolated pockets on various sectors of the hill. All correspond to areas which have previously been investigated as hard rock tin prospects.

The four main areas are found close to the old Rattler alluvial workings (Grid G and C) on the eastern part of the hill; the Rattler Hill greisen lodes (Grid B); the alluvial deposits along McIntyre Creek/eluvial ground about the vein complex (Grid D) and finally around the contact zones of the Star of Peace Mine area.

Further small pockets are found to the east and south of the Mammoth Mine and a small contact zone area south of McIntyre Creek (see plan of holes).

These seven pockets contain an estimated total of 131,000 c.y. of material carrying grades in excess of \$1.00/c.h. (average \$2.15/c.y.) with a further 104,000 c.y. carrying values between 50¢ and \$1.00/c.y.

A breakdown of these figures is:-

1. Rattler Alluvial Area (East side of hill)
 - >\$1.00/c.y. - 36,000 c.y. - Av. Grade \$2.23/c.y.
 - >\$0.50/c.y. - 52,000 c.y.

2. Rattler Greisen Lodes Area
 - >\$1.00/c.y. - 7,000 c.y. - Av. Grade \$1.43/c.y.
 - >\$0.50/c.y. - 3,800 c.y.

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3. McIntyre Creek/Grid D Area
 - \$1.00/c.y. - 27,000 c.y. - Av. Grade \$1.48/c.y.
 - \$0.50/c.y. - 30,000 c.y.
 4. Star of Peace Mine Area
 - \$1.00/c.y. - 57,000 c.y. - Av. Grade \$2.59/c.y.
 - \$0.50/c.y. - 13,000 c.y.
 5. Other **Small** Pockets
 - \$1.00/c.y. - 3,500 c.y. - Av. Grade \$1.86 c.y.
 - \$0.50/c.y. - 5,500 c.y.

Several of these zones of economic values remain open at the ends presenting possibilities of further reserves being proven. The western boundary of E.L.6/68 restricts exploration towards the west.

A certain dilution factor must be considered and applied to the above grades as they have been calculated. In as many cases as possible, the samples recovered were representative of the ground from which they were taken. However, where large boulders were present, these for the purpose of sampling had to be discarded. Estimated actual boulder contents and sample boulder contents were recorded. Removal of these boulders therefore results in an overestimation of the grade of the ground in situ. A dilution factor, estimated to be 15-20%, should be applied to the above grades to compensate for the removal of the boulders, i.e. grade of Star of Peace area (\$1.00/c.y.) which stands above at \$2.59/c.y. should be corrected to a figure of \$2.07/c.y.

The total reserves as calculated from the results of this programme are not considered sufficient to warrant capital outlay on plant and equipment. Before any economic operation were completed it would require additional reserves to be proven either in the vicinity of Bald Hill or alternatively on other project areas.

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Although as the position stands, the prospect does not rate as a company venture, there is scope for a small mining syndicate to make a profitable operation of working these eluvial/alluvial pockets of the area by mechanically shifting the pay dirt to a plant using scrapers or scrapedozers.

One problem which has thwarted earlier miners in this area has been one of water supply. The area lies nearly 3,000 feet above sea level and although there is generally adequate rainfall, the problem is one of conserving this water for useful purpose. This problem could probably be overcome by damming the Cascade River approximately 1½ miles from its source and delivering the water to the plant and work face by pump.

With this problem overcome, the venture could be a profitable one with grades over much of these eluvial pockets in excess of \$2.00/c.y.

I.R. MORTIMORE

APPENDIX ICOSTEANING ON BALD HILL

As a final check on the possibility that the decomposed granites may present a residual low grade tin proposition, four costeans were dozed on prospective areas early in 1972 to enable channel sampling of these granites.

One costean was completed on the Rattler Hill close to the site of Bald Hill D.D.H.3 and three on the Grid G area close to the Rattler alluvial workings to the east of the hill.

Channel samples were recovered over horizontal distances totalling 348 feet and to a maximum depth of 11 feet 6 inches.

The samples were panned to heavy mineral concentrates and assayed in Brisbane.

The 13 samples yielded values ranging from 0.014 to 0.25 lbs SnO₂/c.y., all sub-economic.

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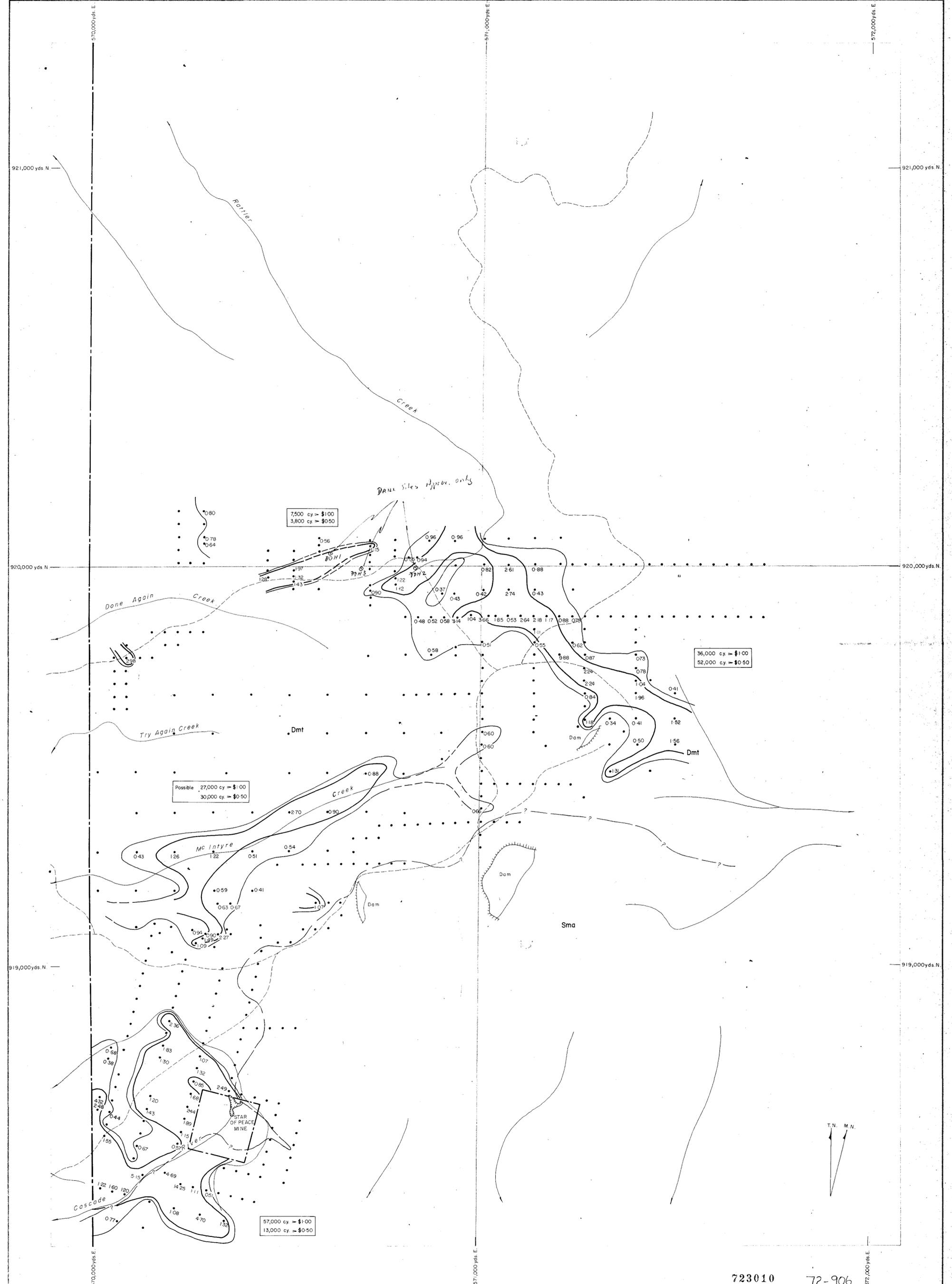
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APPENDIX II

MAP - BALD HILL ELUVIAL TIN PROJECT

LOCATION OF SAMPLE HOLES -

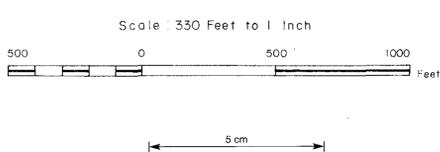
DRAWING NO. 1/149



LEGEND

- Sample hole location
- 1-83 Sample location with \$/cubic yard volume
- Water course
- - - Track
- - - Areas excluded from E.L. 6/68
- - - Geological boundaries
- Dmt Devonian 'Tin' Granite (Biotite-Muscovite Granite/Adamellite)
- Sma Silurian Mathinna Beds
- Approx. 131,000 cy = \$1.00
104,000 cy = \$0.50

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BALD HILL ELUVIAL PROJECT		
LOCATION OF SAMPLE HOLES		
PROJECT	6/68	AUTHOR I. Mortimore
DATE	May 1973	DWG. No. 1/149