

**EXPLORATION LICENCES**

**EL 10/2000, MONARCH FLATS**

**EL 11/2000, SOUTH MT CAMERON**

**EL 12/2000, PIONEER**

**N.E. TASMANIA**

**ANNUAL REPORT ON EXPLORATION**

**DECEMBER 2000 TO DECEMBER 2001**

**For  
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**ELS 10/2000- Monarch Flats, 11/2000- South Mt Cameron, 12/2000- Pioneer Annual Report 2001**

**ABSTRACT**

This combined report describes the first year's work carried out by Mineral Holdings Australia Pty Ltd on the evaluation of the residual alluvial tin resources in the Monarch, Endurance and Pioneer Deposits.

A bulk sampling program has been carried out at Monarch using an excavator and mobile treatment plant to assess the grades of the wash for the main commodity cassiterite but also for rutile, ilmenite, zircon, monazite and sapphire.

Also, calculations on the previous drill holes at Monarch and Endurance have shown that if the overburden is taken out of consideration, the grades of tin in the wash increase by up to a factor of three along with an increase in the overall quantity of contained tin concentrates.

The revised Indicated Mineral Resource figure for Monarch Deposit is over 500,000 bank cubic metres (BCM) of alluvial wash at an average grade of 1.220kg/BCM of 70% Sn concentrate and an estimated 19g/BCM of zircon as ZrO<sub>2</sub> and 48g/BCM of rutile and ilmenite as TiO<sub>2</sub>.

Attempts will also continue to promote these resources to potential joint venture partners either as stand-alone projects or as part of the larger alluvial resource base of the Great Northern Plains and offshore Ringarooma Bay.

## **ELS 10/2000- Monarch Flats, 11/2000- South Mt Cameron, 12/2000- Pioneer**

### **1.0 Introduction**

ELS 10, 11 and 12/2000 were applied for by Mineral Holdings Australia Pty Ltd on 5<sup>th</sup> of May 2000 and granted on 8<sup>th</sup> December 2000. This is the annual report for the first year of the licences to December 2001. In the interests of economy, permission has been received from Mineral Resources Tasmania to lodge a combined annual report covering all three licences.

Each covers an area of 4 sq km in NE Tasmania (Plan 1) and secures the residual resources of cassiterite in the former alluvial tin mines at Monarch, Endurance and Pioneer.

The licences were selected to allow exploration and evaluation of the alluvial resources and their contained heavy minerals particularly cassiterite, ilmenite, rutile, zircon, monazite and gold. Gemstones particularly sapphire and topaz are held under SEL 22/99.

These licences are an integral part of Mineral Holdings' Ringarooma Tin Project of North East Tasmania which consolidates all of the potential tin resources in the region and allows exploration and promotion to proceed in a coherent manner with subsequent economies of scale.

### **2.0 Exploration and assessment**

Exploration activities on the licences, conducted on behalf of Mineral Holdings Australia Pty Ltd, are described in two recent project reports by Neil R Kinnane of Niugini Resources Pty Ltd, Canberra. These reports entitled- The Monarch Project (EL 10/2000), Mt Cameron, Gladstone District, North East Tasmania- Geological Assessment and Ore Resource Statement and The Endurance Project (EL 11/2000), Mt Cameron, Gladstone District, North East Tasmania- Reassessment- have been submitted to Mineral Resources Tasmania at the same time as this annual report.

No assessment report is yet available on the Pioneer EL 12/2000. While field inspections have been carried out on Pioneer and previous exploration reports reviewed, finite resources have prevented the study progressing to a reportable stage in time for this annual review.

The history of previous exploration has been outlined in the above reports for the Monarch and Endurance alluvial deposits.

Current field activity has centred on the Monarch deposit because its shallow resources, compared with the Endurance and Pioneer counterparts, have allowed access by excavator.

Exploration work has involved-

1. The excavation and sampling of ten bulk samples of wash, each of 1-2 cu m
2. On site treatment of the samples through a mobile plant
3. Mineral processing and assaying of the heavy mineral concentrates
4. Hand picking of the jig screen products
5. The calculation of heavy mineral content of the wash samples in grams per cubic metre

In addition, at both Monarch and Endurance, desk studies have been carried out to recalculate the resources of the wash leaving out the barren overburden which could be removed by modern strip mining techniques. This approach leads to an increase in grade in the wash by up to three times and an increase in contained tin concentrates. Studies such as these taken along with commodity price parameters allow models of likely profitability to be run for possible development of the resources.

### **3.0 Results**

The above work programs show that at Monarch the residual resources can be stated as –

- An Indicated Mineral Resource - A, B, & E Lens- of 556,751 bank cubic metres (BCM) at an average grade of 1.220kg/BCM of 70% Sn concentrate and an estimated 19g/BCM of zircon as ZrO<sub>2</sub> and 48g/BCM of rutile and ilmenite as TiO<sub>2</sub>, and
- An Indicated Mineral Resource- D Lens- of 59,100 BCM at an average grade of 139g/BCM of 70% Sn concentrate and estimated grades similar to above of zircon and rutile and ilmenite.

These resources are subject to cut off grades given in the assessment reports.

### **4.0 Conclusions**

- i At Monarch, test pitting and bulk sampling have confirmed the tenor of the resource of B Lens previously defined by BHP and Amdex.
- ii The recent sampling, mineral processing and assaying has shown that as well as cassiterite, there are accessory heavy minerals including rutile, ilmenite, zircon and monazite and their grades are estimated.
- iii At Monarch and Endurance, by removal of the overburden layer from the grade calculations it is possible to increase average Sn grades by up to a factor of three and to increase the content of contained tin in concentrates. This approach will be carried out for Pioneer.

- iv Further exploration and assessment is required at Monarch where the resource is open to the south east. At Endurance, where the resource is open to the west, and at Pioneer, further drilling will be required to increase the resource base and to provide quantitative testing for accessory mineral contents.
- v Efforts will continue to find joint venture partners to develop the resources contained in these deposits either as individual entities or as part of a larger project covering the alluvial tin resources of the north east region both onshore and offshore.

## **5.0 Environment**

Following the extraction of the wash samples, the pits were backfilled immediately with the excavator, the ground compacted and recontoured with the topsoil replaced where possible. Where the topsoil was absent or skeletal in this previously mined area, the disturbed pit area was covered with vegetation slash to reduce the visible effect and to promote natural reseeded.

## **6.0 Expenditure**

The exploration expenditures on the three ELs as itemised in the September quarterly reports is as follows- EL 10/2000 Monarch Flats- \$38,634; EL 11/2000 South Mt Cameron-\$1616 and EL12/2000 Pioneer-\$1566. This gives a total of \$41,816 and reflects the focus on the Monarch deposit in the first year of exploration. The December 2001 quarter figures are not yet available and are expected to add an additional amount to the account particularly EL11/2000 for report compilation. The focus for the second year will be on Endurance and Pioneer (ELs 11/2000 and 12/2000 respectively).

## **REFERENCES**

Kinnane, N.R. 2001. EL 10/2000- The Monarch Project, Mt Cameron, Gladstone District, North East Tasmania. Geological Assessment and Resource Statement.

Kinnane, N.R. 2001. EL 11/2000- The Endurance Project, Mt Cameron, Gladstone District, North East Tasmania. Reassessment.

**KEYWORDS:** Monarch, Endurance, Pioneer, Alluvial Deposits, Cassiterite, Rutile, Ilmenite, Zircon, Monazite, Sapphire

