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SPECTRUM RESOURCES AUSTRALIA PTY. LIMITED.

E.L. 5/88 - Royal George Area

1988-89 Annual Report

89-2970

<b>MINES</b>	
File Ref.	<b>E.L. 5/88</b>
<b>14 JUN 1989</b>	
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*L.A. Newnham*

L.A. NEWNHAM  
5th June. 89

89-2970 <sup>1</sup> OF ~~2~~

AMG REFERENCE POINTS ADDED

## INTRODUCTION:

Spectrum Resources Ltd. is a New Zealand public listed Company whose principal objective is to locate, develop and operate small-medium sized mines. Because the Company considers both tin to be an attractive commodity to produce and Tasmania a desirable area in which to operate, a program was commenced in 1987 with the aim of acquiring properties in Tasmania which had the potential to meet the above Company objective. The now dormant Royal George tin mine was identified as one such property, and the area was acquired as an Exploration Licence in July, 1988.

## LAND TENURE:

E.L.5/88 of four (4) square kilometres was originally acquired to cover the Royal George Mine workings and to provide adequate room for further exploration and mine development. However, due to some confusion with the State Land Tenure map of the area, it became apparent that the area applied for was insufficient. Hence an additional five (5) sq. kilometres has recently been applied for as E.L. 27/89. When granted, it is proposed to apply for amalgamation of the two licences.

Both E.L. 5/88 and E.L. 27/89 cover a mixture off unoccupied crown land, leasehold land, municipal reserves and private freehold. The major private freehold property in the area, which covers portion of the known indicated resources and the likely resource extensions is "Roy's Hill", owned by Mr. R Gee. This property, first granted in the 1870's, carries mineral rights, hence some form of royalty arrangement will have to be agreed with Mr. Gee prior to the commencement of any work on the Licence area. Negotiations for such an agreement will commence once E.L. 27/89 has been granted.

## PREVIOUS WORK:

The Royal George mine is very well documented, both in Government publications and open file Company Reports. In recent times, the area was held by the Cornwall Coal Company Limited as E.L.7/78 and was explored by that Company in its own right and in Joint Venture with B.H.P., C.R.A., Shell and Amax.

The deposit was mined for tin between 1911-22 and production has been quoted as 170,000 tonnes 0.65 tin. In addition to a shallow open-cut which stretched in total along strike over 250m, the mine was developed underground on four levels off an inclined shaft. Most production came from Levels 1 and 2. The deepest level (L4) is 80 vertical metres below surface.

If the above production figure is accepted as reasonably accurate, then the 0.65 tin production grade must have been achieved from stoping widths of approx. 6m. on average.

In the 1950's, one cored hole was drilled between 3 and 4 levels, approx. 70m. S.E. of those levels, and it intersected a 6-7m. wide greisen zone.

In the late 1950's and early 1960's, the Cornwall Coal Company and BHP drilled 15 EX holes into the deposit over a strike length of 400m., and a vertical depth of 150m. With assistance from the Mines Department, C.C.C. also re-opened No.2 Level and channel sampled the floor, and completed various metallurgical studies.

Between 1979-81, C.C.C. in Joint Venture with CRA sampled 3 and 4 levels, completed various geophysical surveys and one drill hole. This hole intersected a mineralised greisen zone 6m. wide, 200m. beneath surface.

#### RESOURCE POTENTIAL:

C.R.A. in 1981 attempted to estimate a resource figure but found it difficult to do so because of the imprecise nature of available data. Their estimation attempts could be summarised as:

0.6-1.2 Mt 0.3-0.4 Sn.

It is arguable that their grade estimation is low because of both the drilling method and the invariable underestimation of grade by drill holes into lode deposits.

In 1985, the Shell company estimated the resource as:

600,000t 0.41 Sn.

However, the same comments apply to their estimation as to C.R.A.'s. This writer considers that there is a reasonable possibility that the deposit may contain 600,000 tonnes 0.5 Sn, in a 5m. wide zone, 250m. long, down to 200m. beneath No.2 Level.

WORK COMPLETED 1988-1989:

Prior to commencing any active field work, Spectrum decided to undertake various "order of magnitude" studies based on available data to determine if the deposit was sufficiently attractive to proceed further with.

The deposit features assumed were:

Resource: 500 - 600,000 tonnes 0.4 - 0.5 Sn.

Mining Characteristics: Deposit 5m. wide, 250m. long  
Steep Dip  
Clearly defined and strong walls to the total greisen zone.  
Low water inflows.  
Deposit suitable for highly mechanised, modern equipment production.

Metallurgical Characteristics:

Zone carries 5-10% sulfides as chalcopyrite, arsenopyrite and sphalerite.  
Sulfide flotation would be required, and it may be possible to produce saleable silver rich zinc and copper concentrates.

Infrastructure: Deposit is located in a very low cost infrastructure area.

Using the above deposit features and drawing very heavily on cost and operational data experienced on the Anchor Mine development, several mining options were evaluated, and it was concluded that a partially selective, flat back open stoping method, similar to that employed in the Cleveland Mine might be the best way to go.

The following style of operation was envisaged:

Throughput:	100,000 t.p.a.
Head grade:	0.5% Sn.
Recovery:	80%
Recovered Grade:	0.4% Sn.
Annual tin production:	400 tonnes
Concentrate grade:	65%
N.R.V of tonne tin in concentrates:	\$12,000
Rec. tin per tonne ore:	\$48.00
Operating Costs:	\$25.00
Capital Cost:	\$4 - 5.0 M
Mine life:	Minimum 6 years

It was concluded that such an operation would probably be commercially attractive, hence the resource assumed should be confirmed.

In addition to the above scoping studies, considerable time and effort was directed towards the acquisition and collation of previous data, required to assist both with these studies and the detailed planning of future evaluation programs.

WORK PROPOSED 1989-1990:

In order to confirm the desired resource, a three phase evaluation program has been proposed.

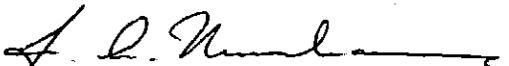
The program will not commence until a royalty or similar agreement has been signed with Mr. Gee, who owns the "Roy's Hill" property which covers the northern section of the deposit.

Once the agreement is signed, the first phase of drilling would commence almost immediately, and this is thought most likely to be July or August 89.

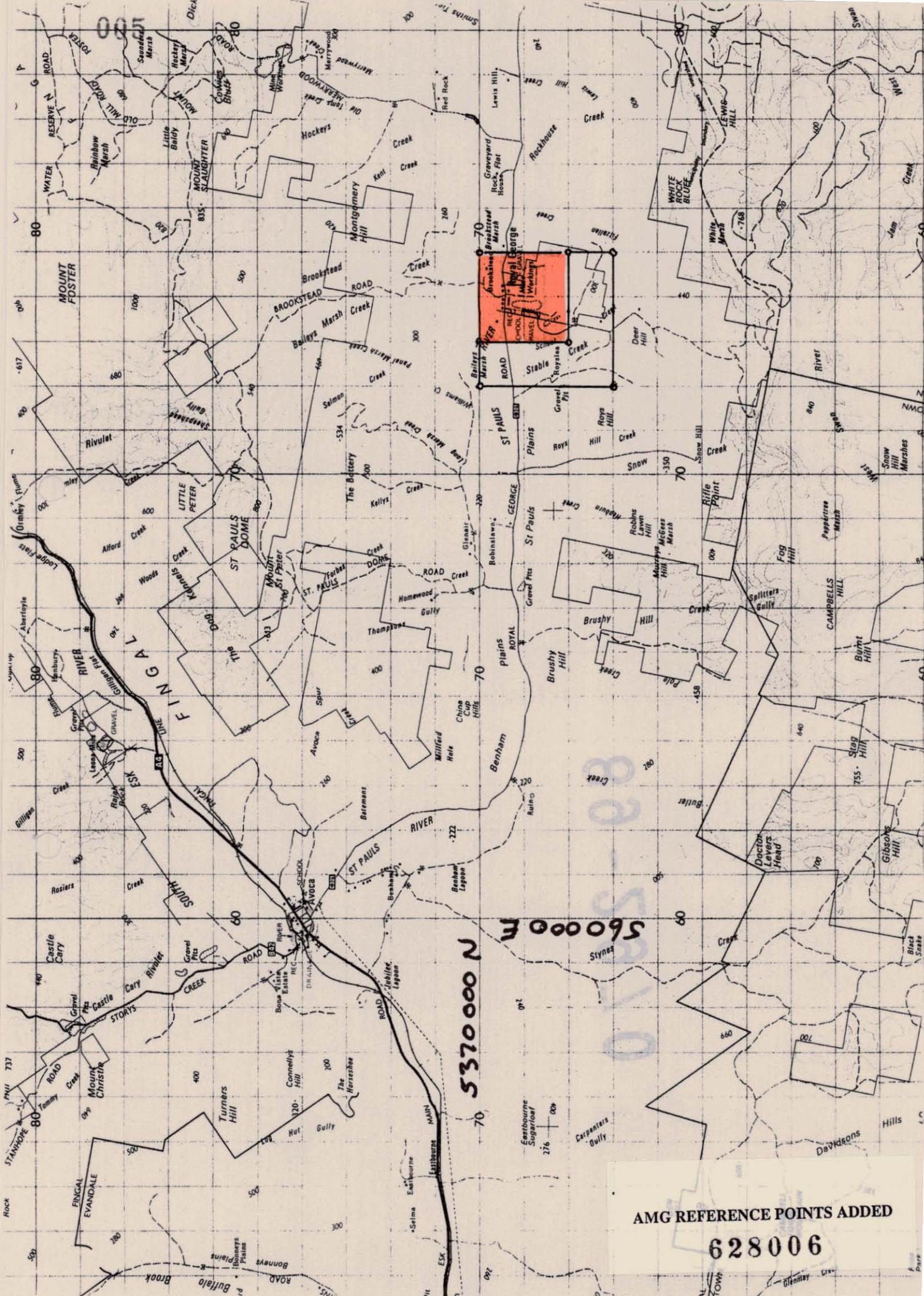
The evaluation program was detailed in the March 89 quarterly report on E.L.5/88, and the reader is referred to that report.

EXPENDITURE:

Actual to March 89:	\$5,339
Estimated 88-89 year: (First year)	\$8,000
Estimated 89-90 year: (Second year)	\$60 - 100,000



LINDSAY A. NEWNHAM.



AMG REFERENCE POINTS ADDED

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