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*Scheme For Diamond Drilling Area, North of  
Open Cut, King Island Scheelite Mine*

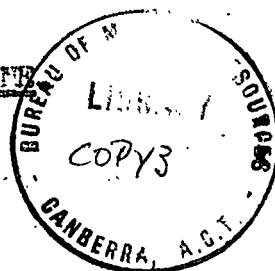
*RECORD  
~~Report~~ No 1946/25*

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DEPARTMENT OF SUPPLY & SHIPPING  
BUREAU OF GEOLOGY, GEOPHYSICS & MINERAL RESOURCES

SCHEME FOR DIAMOND DRILLING AREA  
NORTH OF OPEN CUT, KING ISLAND SCHEELITE MINE

RECORD  
(~~Report~~ No.1946/25. Plan No.1435)



On June 20th King Island scheelite M.I. asked for advice on the location of suitable drill holes north of their present 150 and 170 ft. faces to determine the geology along the No.3 fault. In this report a scheme of drilling is set out, which would determine the geological structure of the area and indicate tonnage of ore and overburden. A plan is attached to the report which shows the bench limits at August 1946, the main geological features and selected diamond drill hole sites.

GENERAL -

Whereas the area south of the No.5 fault has been drilled fairly extensively and the geology and structure in consequence determined in some detail, the area north of the No.5 fault is still to a large degree unknown territory.

The surface is completely covered by sand and the orebody nowhere approaches the surface so far as we know. At the close of the main diamond drilling programme in 1943 there were only three diamond drilling holes in the area and the only reliable quantitative information we have is provided by these. Several percussion holes had been bored previously, but they did little more than indicate the presence of the orebody and in some places the depth of the overburden. The data available at that time was so inadequate that no interpretation of the geology was attempted in Bulletin No.11, issued in 1943.

Since that time five more diamond drill holes have been bored - No. 57 and 59 on Line 8, No. 58 and 60 on Line 4 and No. 62 on Line 3. In the development of the open cut over the past 2½ years a considerable tonnage of overburden has been removed and the 150 bench has been pushed back right to the No.3 fault almost as far west as Line 4. The information provided by the extra drilling and by mapping exposures in the bench faces from time to time has given us some inkling of the geology of this northern area.

GEOLOGY -

The northern section differs in two important aspects from the southern section -

(a) The orebody has thinned very considerably. The thinning of the orebody beds is indicated by the average proved thickness (stratigraphic) of 47 ft. in diamond drill holes No. 58, 59, 60 and 62. Drill hole No. 33 on Line 1 proved a thickness of the same order. This northward thinning is considered to be due to an actual thinning of the original limestone beds and may have been caused either by irregular deposition of the limestone in the first place or by erosion of the top part of the beds before deposition of the overlying rocks. The beds may keep to this reduced thickness throughout the northern area, may actually make again into a much thicker body or may even thin out altogether to the north.

(b) The conception of an orebody dipping south at a fairly regular angle is not applicable here. The general structure cannot be interpolated from the meagre data available but it is known that there is quite strong folding on roughly east-west axes which has turned the orebody into a horizontal attitude in places and even to a northerly dip.

The thickness of the orebody and the geological structure will both be decisive factors in determining the economics of this section of the lease and a considerable amount of drilling is necessary before they can be evaluated.

DRILLING PROGRAMME -

In the scheme set out below the usual holes depressed at an angle of 50° to the north have been replaced by vertical holes as the latter will give much more reliable information on the structure and general attitude of the orebody. Estimated total footage is 1560 feet.

	<u>Co-ordinates</u>	<u>R.L.</u>	<u>Depth (est.)</u>
<u>Line 3</u>	446N/310E	250	110
<u>Line 2</u>	350N/150E	255	140
	463N/172E	266	160
	572N/193E	275	120
<u>Line 1</u>	590N/53E	278	200
<u>Line 5</u>	442N/116W	265	200
	590N/88W	290	150
	738N/58W	305	150
<u>Line 6</u>	508N/248W	282	180
	654N/218W	300	150

(C.L. Knight)  
Geologist.

CANBERRA.  
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PLAN  
KING ISLAND SCHEELITE MINE  
SHOWING  
MAIN GEOLOGICAL FEATURES &  
SELECTED DIAMOND DRILL HOLE SITES



- Reference
- Top ore body
  - Bottom ore body
  - Marker beds
  - Pyroxene-garnet
  - Overburden
  - Aplite

The bench limits shown are taken from  
a plane table survey made in August, 1946  
Selected vertical drill hole sites:-  
Holes already drilled:- O D.D. 33

C. L. Knight  
Geologist  
Aug. 1946

