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G. Dir.	15 OCT 1985			Register
	DEPT. OF MINES			E & IL
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REPORT NO. KI85/1

ANNUAL REPORT TO THE MINES DEPARTMENT

E.L. 15/66

MICROFILMED

By

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PARKES. N.S.W.

SEPTEMBER 1985

CONTENTS

	<u>Page No.</u>
INTRODUCTION	1
SUMMARY	2
DISCUSSION	3
FUTURE WORK PROGRAMME	7
EXPENDITURE	8
REFERENCES	9

LIST OF FIGURESFigure

- 1 / King Island Geological Map.
- 2 / Company Exploration Licence - King Island.
- 3 / EL 15/66 showing location of work carried out twelve months to 30/09/84.
- 4 / EL 15/66 showing areas of exploration potential.
- 5 / Dolphin Mine Lower Wedge Stope -290m Zone.
- 6 / Dolphin Mine - Mid Central Exploration Drive C62.
- 7 / Dolphin Mine - Southern Orebody, Exploration Development.
- 8 / Dolphin Mine 210 Lower Central, and C46 Southern Orebody Exploration Development showing Southern Orebody exploration drive.

INTRODUCTION

1.

Exploration Licence 15/66 is held by Warman Services Limited in respect of an area of 130 square kilometres in south-east King Island.

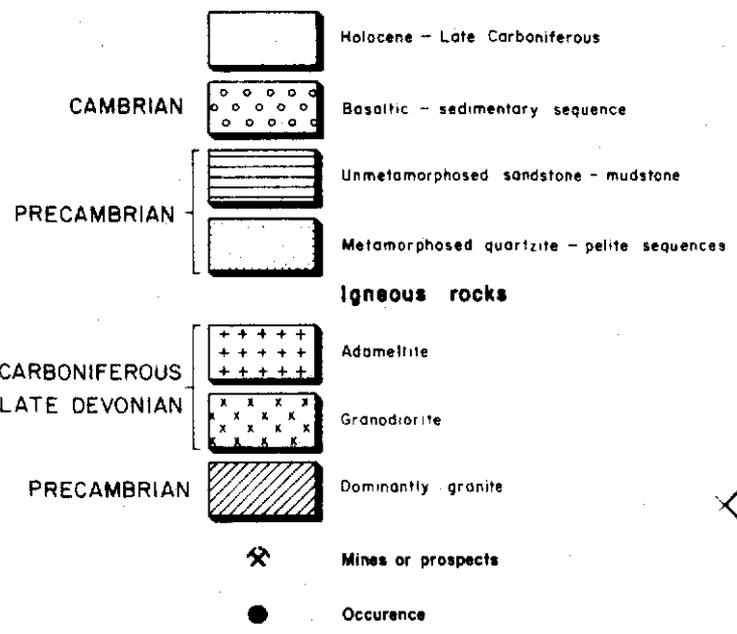
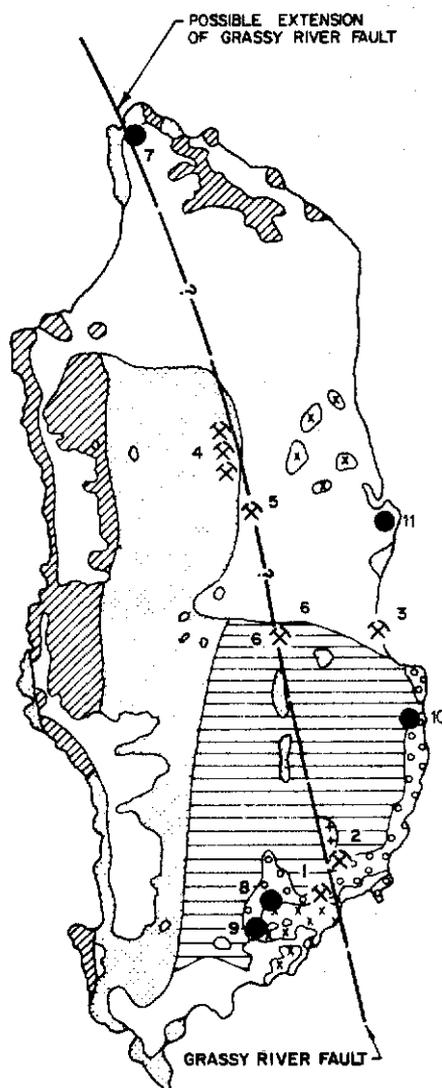
In October 1983, this licence was amalgamated with E.L.21/78 and the combined area reduced by 30 sq km to the current size. The Licence covers the Bold Head Adamallite and Grassy Granite Contact Zones (Figures 1 and 2).

Mineral Lease 17M/79 with an area of 22.98 square kilometres, covering the Dolphin and Bold Head Mine areas is included within the boundaries of E.L. 15/66.

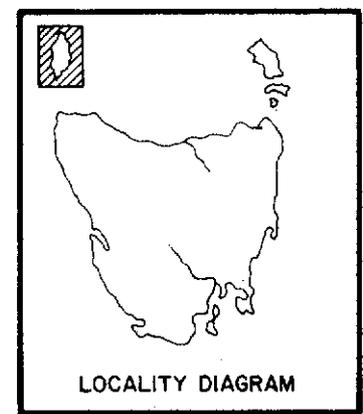
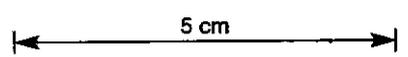
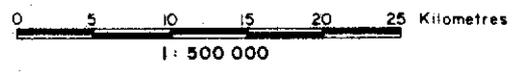
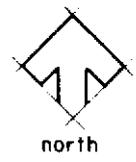
Exploration within E.L.15/66 has been severely restricted due to the current economic situation.

Exploration drivage has been carried out in a number of areas to test zones of geological potential with some success. The results of this work and its effect on the interpreted exploration potential are given together with a proposed exploration programme for the next twelve months.

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1. DOLPHIN/Nº1 OREBODY - W, Mo
2. BOLD HEAD - W, Mo
3. NARACOOPA - Beach Sands
4. REEKARA - W, Sn
5. HAWKES ALLUVIAL - Sn, W
6. FRASER RIVER - Au
7. VICTORIA COVE - W
8. LOOP ROAD - W, Mo
9. INVESTIGATOR 21 - W, Mo
10. BARRIER CREEK - Au, Ag, Pb, Cu, As
11. COWPER POINT - Beach Sands



KING ISLAND GEOLOGICAL MAP  
FIGURE 1

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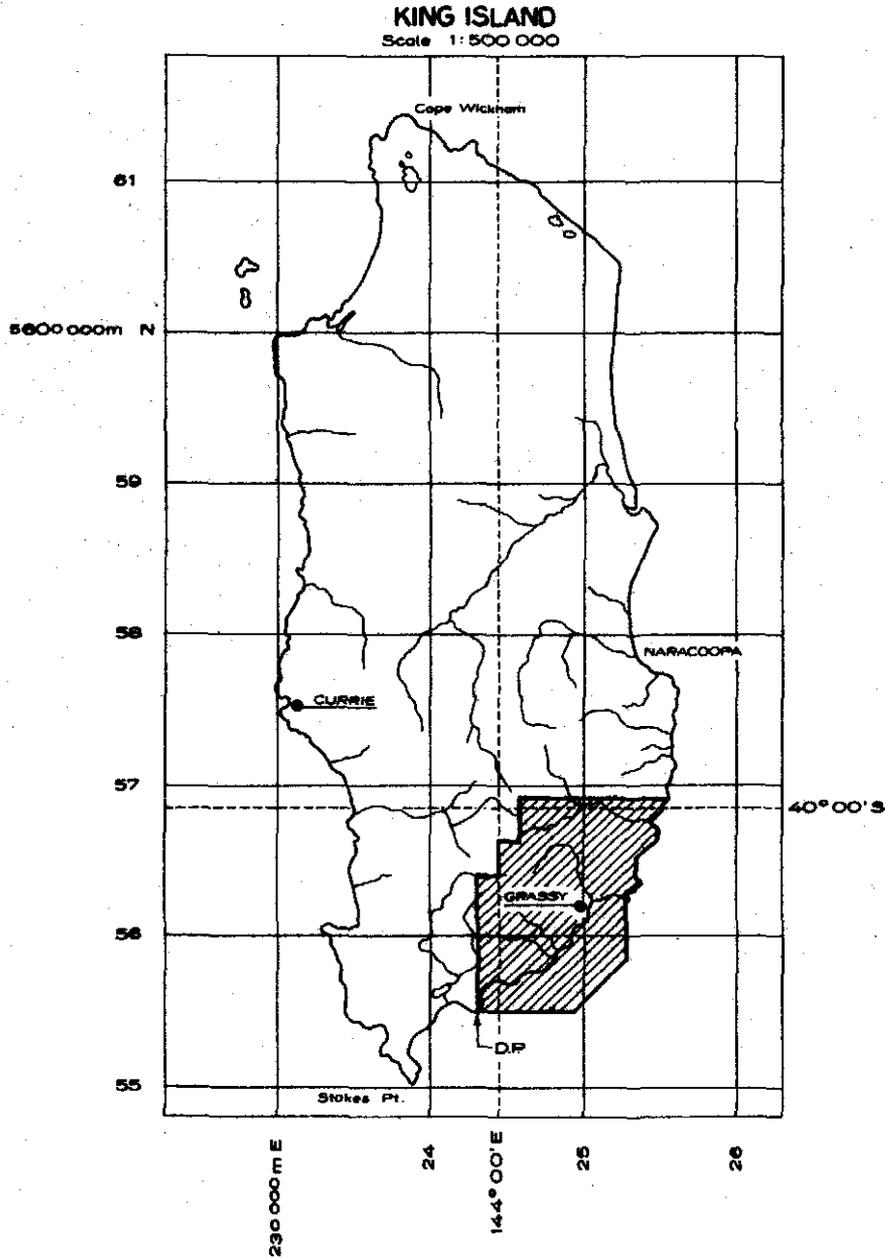
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figure 2

COMPANY EXPLORATION LICENCE - KING ISLAND

 - E.L. 15/66

5 cm



DATA POINT [D.P.] CO-ORDINATES

DP - E.L. 15/66 : 5 555 000 m N  
242 000m E

Australian Map Grid [A.M.G.] Zone 55

SUMMARY

Since the last report (Brown, September 1984) exploration work within EL 15/66 has been restricted to exploration drivage into areas peripheral to the Dolphin Mine block (Table 1).

Economic considerations and lack of experienced on-site operators precluded any diamond drilling work in the period to September 1985.

The two main areas tested by exploration drivage were the Decline area and the Southern Orebody area. Encouraging results were obtained in both areas and follow up work will be undertaken.

Additional Exploration Development Drivage was carried out in the Mid and Lower Central areas to obtain additional information on these areas of complex structure.

KING ISLAND SCHEELITE

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TABLE 1

Exploration Development Financial Year 1984/85

Ore Body	Heading	Metres Advanced	Comments	Action
DECLINE	V6	34.8	Passed through Decline Fault into Decline Area. Confirmed presence of Mine Series Rock.	Diamond Drilling required.
SOUTHERN	S8	4.4	Confirmed position of Central Fault - Division between Lower Wedge and Southern O/B.	---
	I11	7.7	To test for Southern O/B, (Pit Dag No. 3). No ore encountered.	---
	C46	5.0	To test interpreted ore in Southern O/B (Swan). Ore confirmed. Drilling impractical from available openings.	Test extent of ore horizon.
CENTRAL	S34) C62)	60.0	Located Base of Mid Central O/B in area of complex Geology. Drilling impractical from current openings.	Test extent of ore horizon.
	Q10	59.0	Defined geology of Lower Central Fault Block. Located base of Ore Body.	---
TOTAL		170.9		

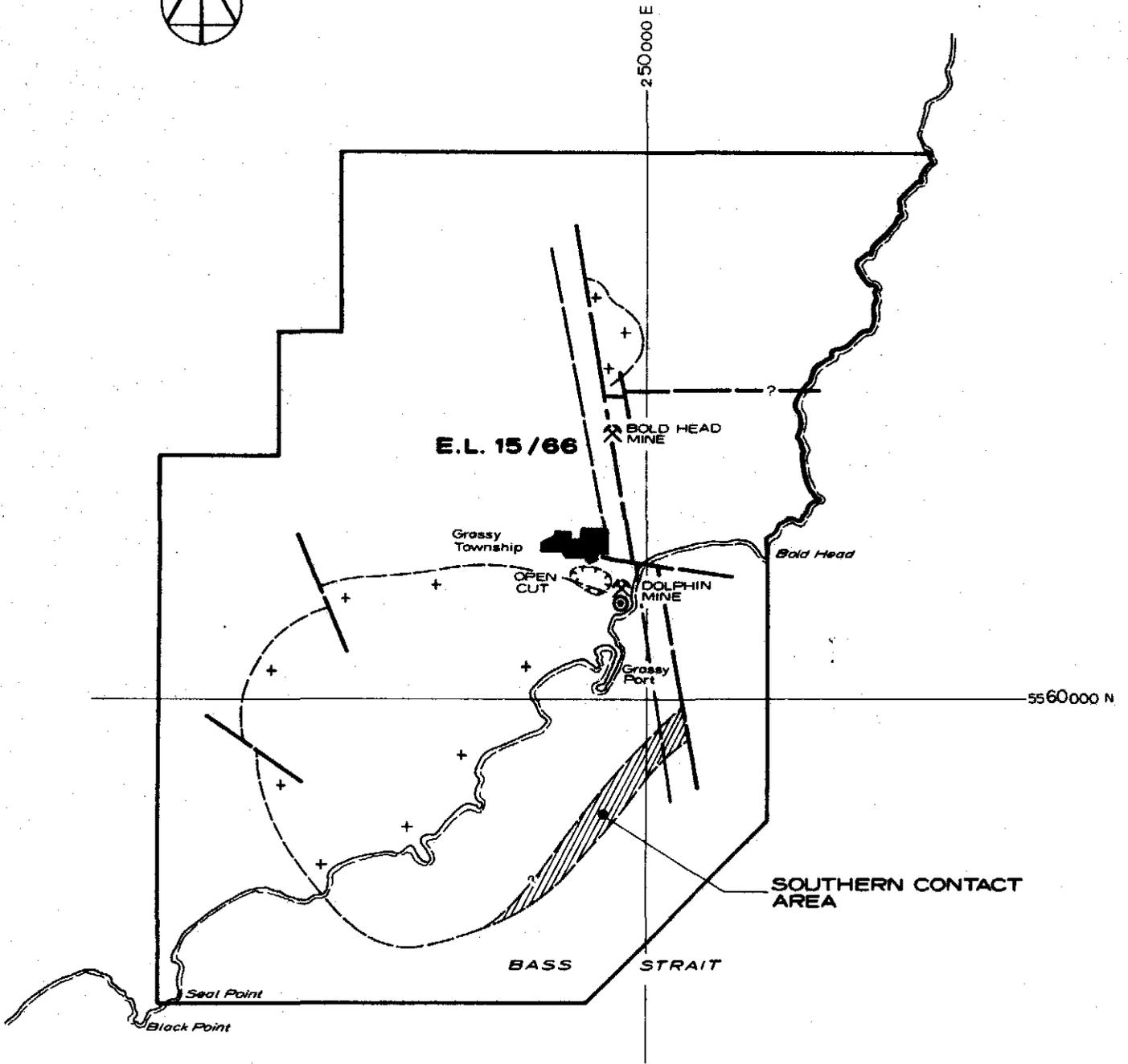


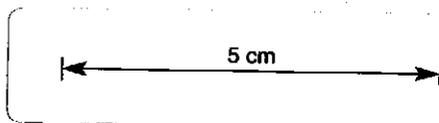
figure 3

**EXPLORATION LICENCE 15/66**  
 SHOWING LOCATION OF WORK  
 CARRIED OUT TWELVE MONTHS TO 30-9-84

Scale 1:100 000

**LEGEND**

⊙ - EXPLORATION DRIVE



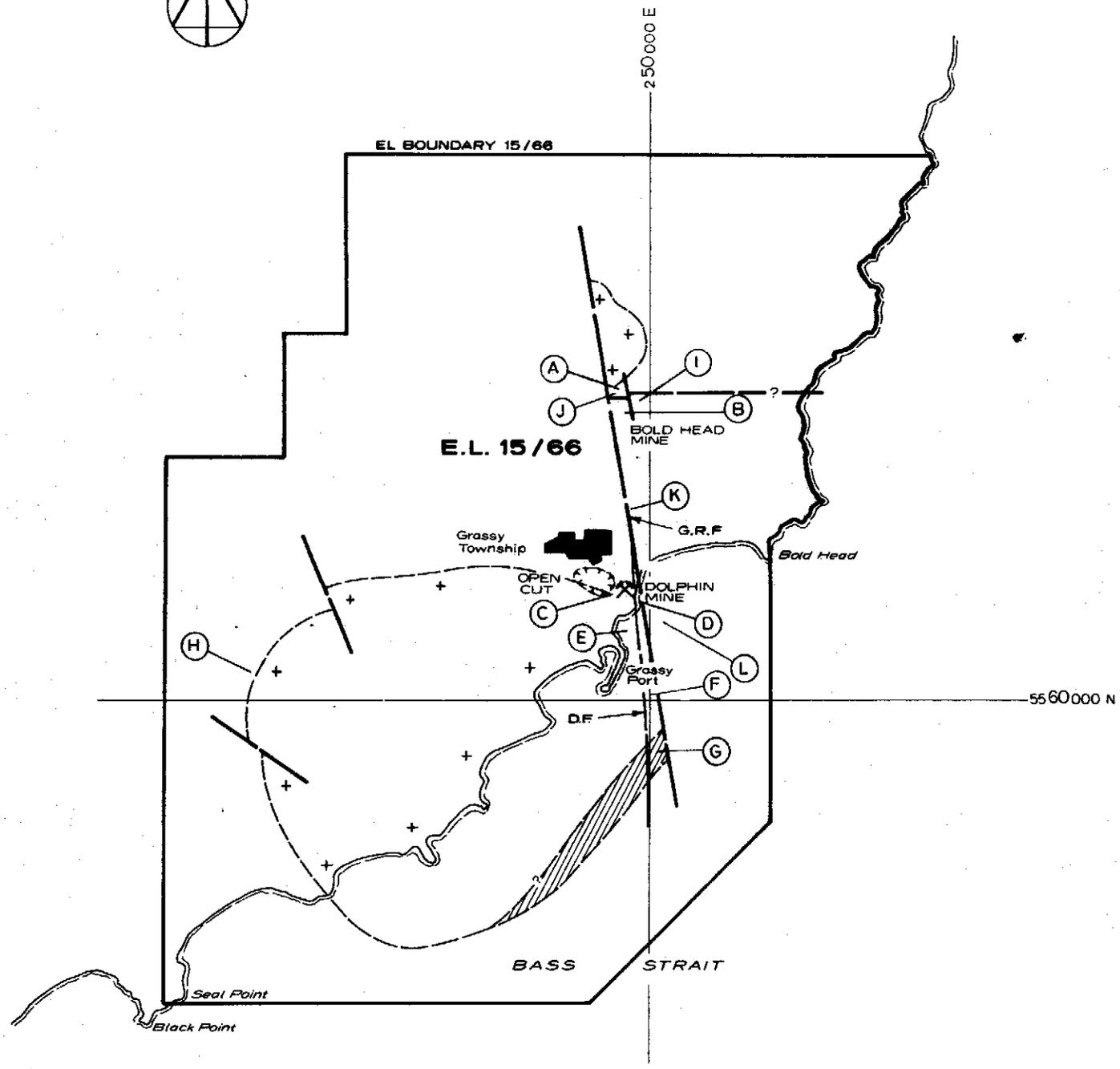
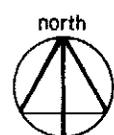


figure 4

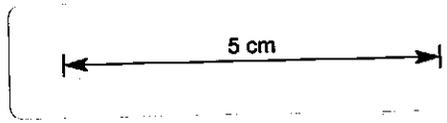
Scale 1:100 000

**LEGEND**

- G.R.F - GRASSY RIVER FAULT
- D.F. - DECLINE FAULT

**EXPLORATION LICENCE 15/66  
SHOWING EXPLORATION POTENTIAL**

- |              |          |   |                    |
|--------------|----------|---|--------------------|
| CATEGORY I   | PROSPECT | A | BOLD HEAD MINE     |
|              |          | C | DOLPHIN MINE       |
|              |          | E | SOUTHERN OREBODY   |
|              |          | H | INVESTIGATOR 21    |
| CATEGORY II  | PROSPECT | B | BOLD HEAD SOUTH    |
|              |          | D | DECLINE OREBODY    |
|              |          | G | 'TEREDO'           |
| CATEGORY III |          | F | 'WINDOW'           |
|              |          | I | INVESTIGATOR 1     |
|              |          | J | BOLD HEAD N°4 AREA |
|              |          | K | 'HORST'            |
|              |          | L | DOLPHIN EAST       |



DISCUSSION

The various areas within EL 15/66 considered to have economic potential are shown on figure 4. The terminology used for the various areas has been defined in previous reports (Brown 1982 and 1984).

a) Grassy River Fault/Decline Prospect (D.fig 4)

Work carried out prior to September 1984 indicated that the Grassy River Fault was located further east than had been assumed previously, thus increasing the spacing between the Decline Fault and the Grassy River Fault.

Such an increase in separation of these two faults significantly increased the potential for the presence of mine series rocks, and hence the potential for economic scheelite deposits in the Decline Prospect south of the Fulmer fault (Figure 5).

Although inconclusive the two percussion drill holes drilled from the S8 Lower Wedge - 290m RL drive indicated that the Decline Fault zone was not a major breccia zone and could possibly be driven through utilizing a small size opening. Rock chips obtained from east of the Decline Fault zone indicated the presence of mine series type rocks.

A drive, the V6 exploration drive, was therefore commenced. This drive was completed in May 1985, some 34 metres past the Decline Fault. Ground conditions indicate the possible presence of a fault zone in advance of the face. Current interpretation would suggest that this is not the main Grassy River Fault but probably some subparallel structure.

Subsequent mapping of the V6 drive confirmed the presence of mine series rocks (biotite hornfels) over the entire length of the drive. There is considerable difficulty in defining the exact position within the mine series sequence that this biotite hornfels horizon belongs to. The patchy zones of pyroxene hornfels and occasional grossularite garnet crystals, with associated trace scheelite, suggest we are proximal to B lens which is interpreted to be above the level of the drive.

It is intended to solve the stratigraphic problem by diamond drilling with two holes totalling 200m being drilled from the current level to test for B and C lens respectively.

The location of Mine Series rocks in the zone between the Decline and Grassy River Faults has significantly increased the chances of continuity between the known Mine Series rocks at Dolphin Mine and the Mine Series rocks inferred as present at the southern granite contact. Location of ore grade mineralization within this zone would significantly increase confidence in the overall interpretation of the economic potential of the Dolphin/Bold Head area.

b) Central Orebody

i) Mid Central Area

Diamond drilling from the 150m level had indicated the presence of possible ore grade mineralization in the Mid Central area between -150mRL and -180mRL. These drill holes were however drilled almost horizontal due to the location of available openings and this together with the heavily disturbed nature of the structure in that area precluded any sensible estimate of the economic potential of the area being made.

When the Lower Pit stope reached the -185mRL an exploration drive, the S34 ramp, C62 drive was commenced to test the area. This drive allowed the relative positions of the Wedge and Central Faults to be defined and also finally confirmed that the Wedge fault post dates, and offsets, the Central Fault. It is now considered that the Wedge fault is one of the latest premineral faults and probably also offsets the Swan Fault rather than the converse as previously interpreted.

Development within the Mid Central block proper has shown the continuity of the sequence to be very poor however the heavy faulting of the rocks in this area prior to mineralization has allowed the tungsten bearing fluids to permeate the area giving a reasonable overall grade to this zone.

ii) Lower Central Area

This area which is effectively a small (60m x 20m) down faulted block of Mine Series rocks bounded by the Wedge, Central and Swan Faults had proved impossible to satisfactorily interpret from diamond drilling due to lack of data and the apparently structurally complex nature of the geology.

An exploration drive the Q10 was therefore developed into the base of this block at the -260mRL. This drive showed that the strike of this orebody is almost due N/S with a dip to the east of about 45° compared to that normally found in the major ore blocks (except Wedge) of about 060°/25° SE. This meant that the diamond drilling carried out to date was subparallel to strike and that the structure was significantly simpler than previously considered.

Further development openings on higher levels showed that this simpler interpretation was correct and that a mineable block of ore existed in this zone.

c) Southern Orebody (E Fig. 4)

Work carried out prior to September 1984 had shown the presence of the normal Mine Series sequence south of the Swan Fault. Surface exploration hole D300/8 had intersected B lens marble at a point some 230m south of the Swan Fault but available underground openings were poorly placed to enable effective oreblocking diamond drilling to be carried out.

The subdivisions within the Southern Orebody are shown on Figure (7) together with the major exploration development openings in the vicinity.

i) C46 Area

With the development of the Q10 Lower Central exploration drive it became possible to extend the C46 cross cut through the Swan Fault into the Southern Orebody (Swan block). Figure 8.

This drive has since progressed some 30m in upper C lens of the Swan ore block. The results to date have supported the overall geological interpretation of this area based on relatively sparse drilling, which, due to the availability of openings, tended to be drilled subparallel to the dip of the bodies.

ii) S8 Area

This ramp designed to provide access to the Lower Wedge zone at the -290mRL was extended 4.4m through broken ground to locate the position of the Central Fault and to test for the presence of B lens marble at this horizon.

The Central Fault was intersected as anticipated thus defining the northern limit of the Southern Orebody (Coast Block) in this area. 'B' lens marble was not encountered and a reinterpretation of the geology of this block was carried out. Figure 5.

iii) I11 Area

This drive was pushed east from the Southern Orebody (Dodo Stope) to test the position of the Pheasant Fault and the lower limit of the Pit Dag 3 orebody. The geology of this area was more complex than anticipated with a larger offset on the Pheasant Fault and a rapid truncation of the mineralization.

d) Bold Head South Area/Investigator 1

No progress has been made on this project since the last report, September 1984. The area is still considered a high priority one from the point of view of exploration and stratigraphic diamond drilling is proposed once economic conditions permit.

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FUTURE WORK PROGRAMME

The actual work programme to be carried out over the next 12 months will again be dependent on the availability of funds.

The following items are currently planned for the next twelve months.

1. Continue exploration development in the Southern Orebody (Swan block) to delineate the extent of the Upper and Lower 'C' lens horizons.
2. Diamond drill two stratigraphic drill holes from the V6 exploration drive to test the Mine Series rocks within the zone between the Decline Fault and the Grassy River Fault.
3. Continue exploration development in the Mid Central area to delineate the extent of ore grade mineralization on the -180mRL level.

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EXPENDITURE

Expenditure on Exploration Licence 15/66 for the twelve months to 31st August, 1985 was:

Geology	1141.00
Draughting	300.00
Drilling	Nil
Licence Renewal	3500.00
Geophysics	Nil
Field Expenses	496.00
Administration	445.00
Development Drivage	<u>82,112.80</u>
	<u>\$87,984.80</u>

The exploration development drivage figure is based on that reported to the Mines Department for the 1984/85 by King Island Scheelite. Adjustment has been made for the additional meterages carried out during July and August in the Swan Orebody.

The draughting figure is estimated, since this was carried out by King Island Scheelite staff and is not costed separately to mine oriented work.

20% of geological time spent on King Island has been costed to exploration as the time estimated spent on control and investigation of the various development drives.



S. Grieve Brown.  
Supervising Geologist.

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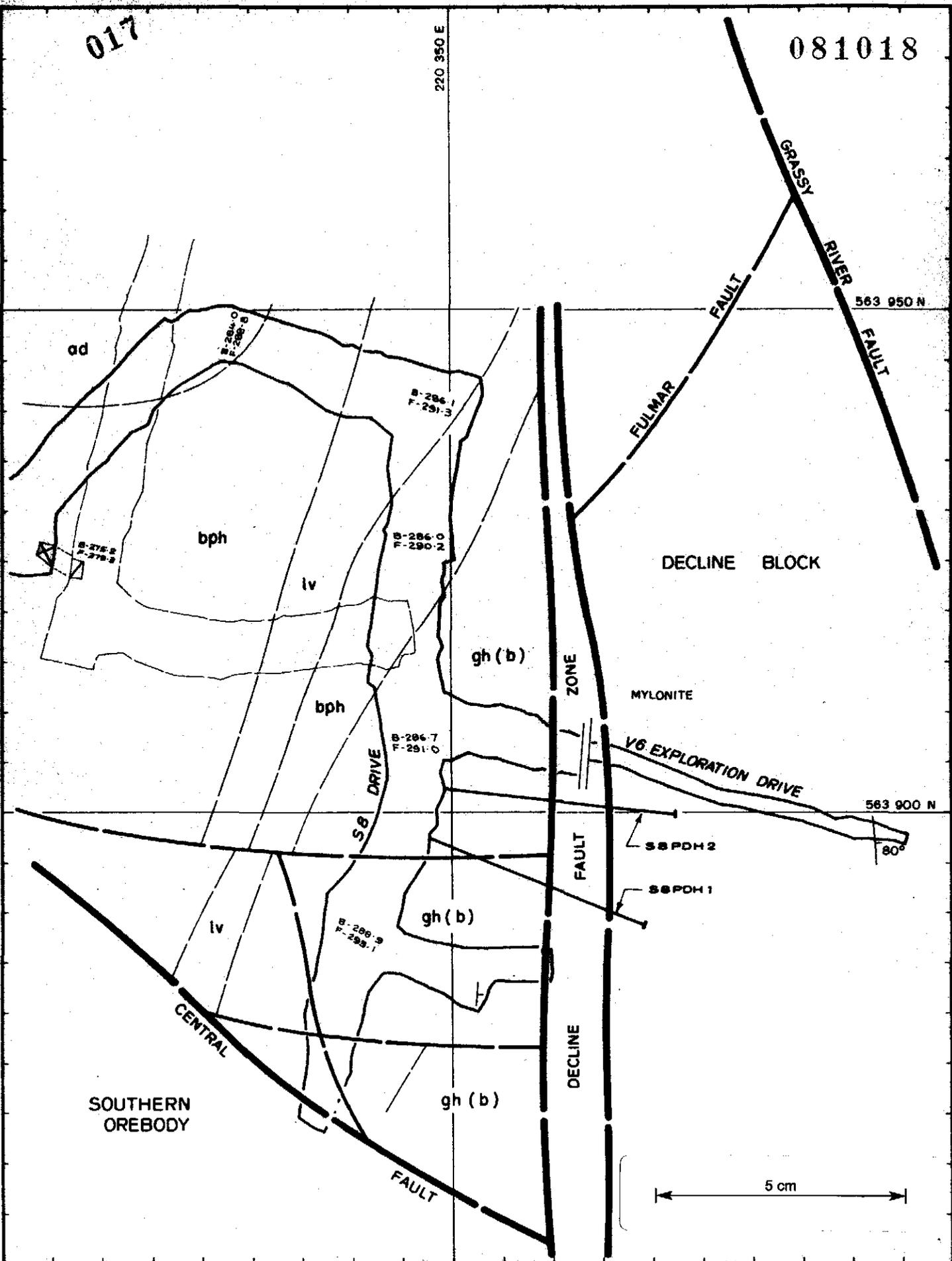
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220 350 E

563 950 N

563 900 N



REF PLAN	GEOLOGY		1 : 500 SCALE	KING ISLAND SCHEELITE GRASSY KING ISLAND
	SURVEY			
	PLANNING		DOLPHIN MINE -290 LOWER WEDGE EXPLORATION DEVELOPMENT	
	ROCK. MEC.			
	GRADE CON.			
	DRAFTING			
T.S.S.		DRAWING NUMBER	FIGURE 5	

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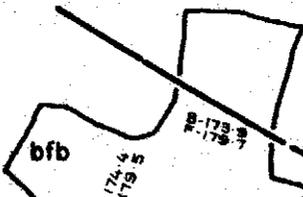
220 200 E

220 250 E

564 050 N

CENTRAL BLOCK

WEDGE BLOCK



C62 DRIVE

FAULT

N 13 DRIVE

PIT

BLOCK

564 000 N

S 64 RAMP

5 cm

REF. PLAN

GEOLOGY		
SURVEY		
PLANNING		
ROCK. MEC.		
GRADE CON.		
DRAFTING		
T.S.S.		

1 : 500  
SCALE



KING ISLAND SCHEELITE  
GRASSY KING ISLAND

DOLPHIN MINE  
MID CENTRAL C 62  
EXPLORATION DRIVE

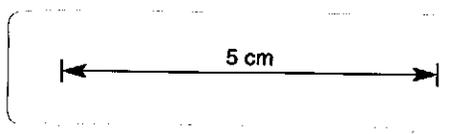
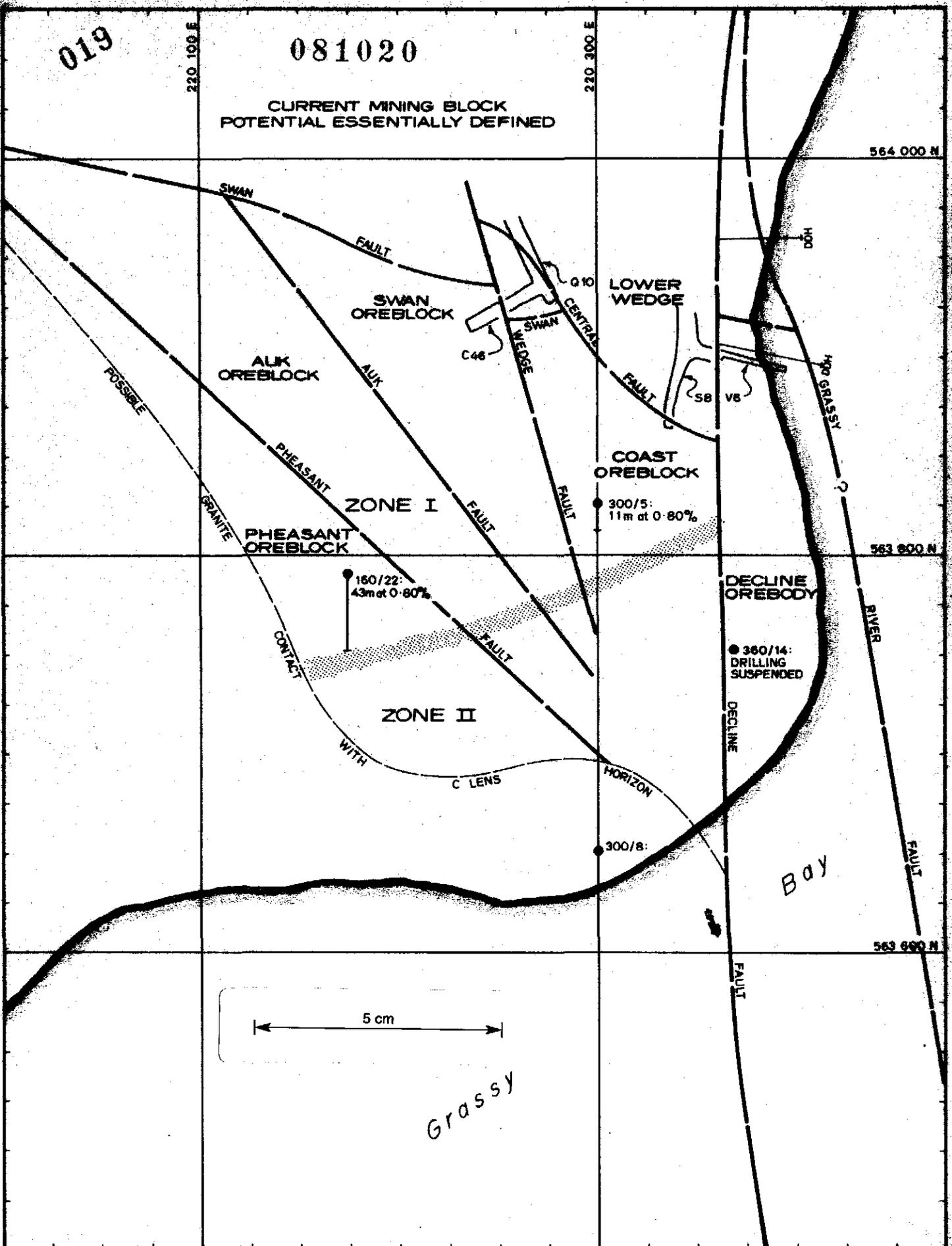
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FIGURE 6

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CURRENT MINING BLOCK  
POTENTIAL ESSENTIALLY DEFINED



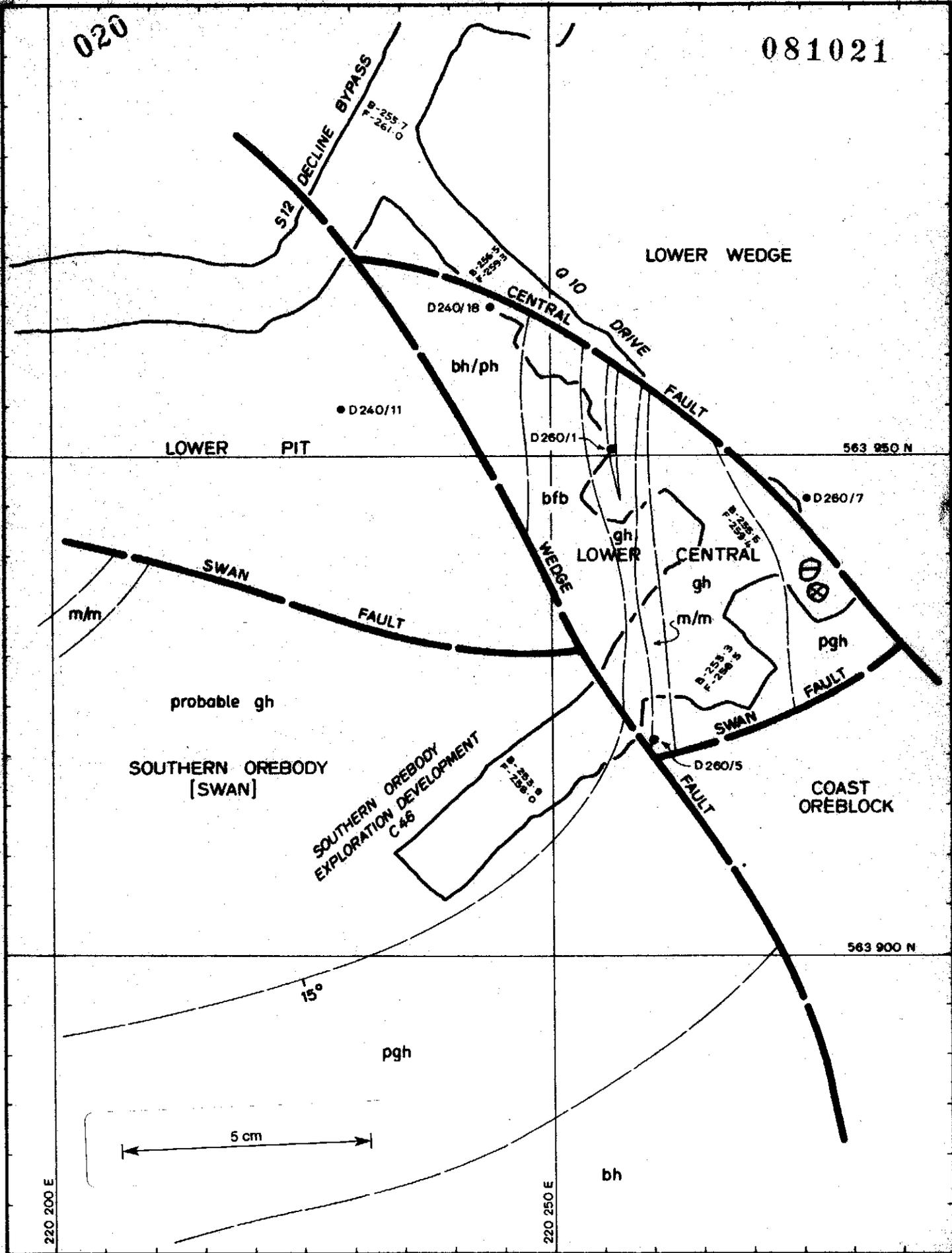
Grassy

REF PLAN	GEOLOGY		1 : 2 500 SCALE	KING ISLAND SCHEELITE GRASSY KING ISLAND
	SURVEY			
	PLANNING			
	ROCK MEC.			
	GRADE CON.			
	DRAFTING			
T.S.S.		DRAWING NUMBER	FIGURE 7	

SOUTHERN OREBODY  
SHOWING EXPLORATION DEVELOPMENT

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REF. PLAN	GEOLOGY	SGB	Oct 85	1 : 500 SCALE	KING ISLAND SCHEELITE GRASSY KING ISLAND
	SURVEY				
	PLANNING			DOLPHIN MINE Q 10 LOWER CENTRAL & C 46 SOUTHERN OREBODY EXPLORATION DEVELOPMENT	
	ROCK. MEC.				
	GRADE CON.				
	DRAFTING	BJC	Oct 85		
	T.S.S.				
	DRAWING NUMBER				FIGURE. 8