THE GEOLOGY

of an area

HAST OF ANGASTON, SOUTH AUSTRALIA

by

PRIER D. FLEMING

B.Sc. Adelside

Honours Thesis

Department of Geology
The University of Adelaide

November, 1965

CONTENTS

	Page					
ABSTRACT						
INTRODUCTION						
SECTION A: STRATIGRAPHY	4					
1. The boundary between the two major rock uni						
in the area.	4					
(a) Field relations	4					
(b) Discussion						
2. Stratigraphic Sequence	10					
(a) Rock unit 1.	11					
(b) Rock unit 2.	12					
SECTION B: METAMORPHISM	18					
Introduction	18					
1. Metamorphism of Rock Unit 2.	20					
(a) Aluminous semipelitic and pelitic schis	sts 20					
(b) Sandy schists	28					
(c) Marble	29					
2. Metamorphism of Rock Unit 1.	35					
(a) Scapolite schist	35					
(b) Muscovite-knotted schist	37					
3. Intrusive Rocks - Metadolerites	38					
4. Discussion and Conclusions	40					
(a) Aluminous schists of Rock Unit 2	40					
(b) Marbles	43					
(c) Rock Unit 1	45					
(d) Metadolerites	46					

CONTENTS (cont.)

	Page				
SECTION C: STRUCTURE					
1. Folding	48				
(a) Introduction	48				
(b) Descriptive features of folding and					
fold styles	49				
(c) Lineations	53				
(d) Structural Analysis	54				
(e) Discussion and conclusions	60				
2. Faulting					
SECTION D: GENERAL CONCLUSIONS	63				
ACKNOWLEDGEMENTS					
REFERENCES					

FIGURES

Fig.	1.	GEOLOGY EAS	ST OF ANGL	ASTOI	N - Fact 1	Map. A	ppendix	Volu	ne
Fig.	2.	INTERPRETAT		11	11				
Fig.	3.	STRUCTURAL		tt	11				
Fig.	4.	SAMPLE AND	tt	11					
Fig.	5.	MINERAL ASS	SEMBLAGES	IN A	ALUMINOUS	SCHISTS	After	Page	21
Fig.	6.	11	11	ti	1f	11	11	11	11
Fig.	7.	STRUCTURAL	GEOMETRY			Aj	ppendix	Volu	ne
Fig.	8.	11	tt				tt	11	
Fig.	9.	11	11				tt	11	
Fig.	10.	11	ti				11	11	
Fig.	11.	tt	tt				11	11	

PLATES

Plates 1-42.

Appendix Volume

TABLES

Table 1. THE STRATIGRAPHIC SEQUENCE - ANGASTON AREA

After Page 10.

ABSTRACT

The stratigraphy, metamorphic petrology and structural geology of a small area of amphibolite facies rocks have been investigated. A non-stratigraphic boundary separates the two major rock units in the area.

Mineral assemblages in pelitic rocks of the younger unit indicate that the area has undergone and alusitestaurolite metamorphism. No general conclusions can be drawn regarding either the metamorphism of the marbles of the same unit, or of the scapolitised pelitic schists of the older group.

Three main phases of deformation have been recognised in rocks of the area. Macroscopic and most mesoscopic folding is a result of the first phase deformation. Second and third phases have involved a crenulation cleavage movement, but do not appear to have had a controlling effect on the macroscopic geometry.