LATE PRECAMBRIAN GEOLOGY OF THE WARREN-BUCKARINGA GORGE AREA, FLINDERS RANGES, SOUTH AUSTRALIA.

bу

HELENA JABLONSKI, BSc.

This thesis is submitted as partial fulfilment of the requirements of the Honours Degree of Bachelor of Science in Geology at the University of Adelaide, 1975.

## LIST OF CONTENTS.

Aps crac c	
Introduction	1
Regional Geological	2
Stratigraphy	2
Umberatana Group	2
Angepena Formation	3
Wilmington Formation	4
Elatina Formation	8
Wilpena Group	12
Nuccaleena Formation	13
Brachina Formation	14
Comparative Petrology	14
Structure	15
Comparison with Wyacca Bluff-Buckaringa	
Gorge Area, Mapped by Miller 1975	16
Comparison with Hallett Cove Section (SS5)	17
Palaeoenvironmental Interpretation	19
Conclusions	24
Bibliography	25
Acknowledgements.	

## LIST OF FIGURES.

Fig 1	Locality Map
Fig 2	Stereographic poles to bedding plot.
Fig 3	Stratigraphic Correlation Diagram. (In envelope)
Fig 4	Grain size, sedimentary structures, and
	environmental summary.
Fig 5	Palaeocurrent data plot
Fig 6	Geological Map of Warren-Buckaringa Gorge
	Area, Flinders Ranges, S.A.
Plate 1 )	
Plate 2 )	Field Photographs.
Plate 3 )	
	LIST OF APPENDICES.
Appendix 1	Thin section and hand specimen descriptions
Appendix 2	Photomicrographs of thin sections.
Appendix 3	Stratigraphic sections
•	Stratigraphic Section 6
	Stratigraphic Section 2 and 7
	Stratigraphic Section 3
	Stratigraphic Section 4
Appendix 4	Location of thin section, hand specimen and

photographs. (In envelope)

## ABSTRACT

Geological mapping of a Late Precambrian sequence ranging from the Angepena Formation (Umberatana Group) to the ABC Range Quartzite (Wilpena Group), in the Warren-Buckaringa Gorge Area has been completed. The Wilmington and Elatina Formations have been subdivided into 7 and 4 mappable units respectively, while the Angepena, Nuccaleena and Brachina Formations were unable to be further subdivided. The sequence is located on the eastern side of a shallow southerly plunging monocline.

Facies and petrological changes along strike were examined and these can be summarized as consisting of increasing amounts of carbonate, both as carbonate facies rocks and in the pore spaces of detritals towards the north map area.

Stratigraphic Comparison of Warren-Buckaringa Gorge Area Sections with Wyacca Bluff-Buckaringa Gorge Area (Miller 1975) indicate an almost identical sequence while a section through Waterfall Creek (Hallett Cove Area) reveals a similar succession which can be correlated.

The sequence mapped represents sediments of deep water subtidal to tidal flat environments, controlled by a pattern of transgressions and regressions related to glacial and deglacial effects within the geosyncline.

## LOCALITY MAP

WARREN

BUCKARINGA GORGE AREA.

FLINDERS RANGES.

S.A.

