

GEOCHEMICAL EXPLORATION AROUND THE ACLARE MINE
AND
MINERAL DEPOSITS OF THE SURROUNDING REGION

BY
P. W. ASKINS

Submitted for the degree of B.Sc.(Honours)
School of Geology
The University of Adelaide
October, 1968.

CONTENTS

	<u>Page</u>
<u>ACKNOWLEDGEMENTS</u>	
<u>I INTRODUCTION</u>	1
1. Location	
2. Aim of Investigation	
3. Methods Employed.	
<u>II REGIONAL GEOLOGY</u>	2
<u>III LOCAL GEOGRAPHY</u>	4
1. Topography	
2. Degree of outcrop	
3. Rainfall and vegetation	
4. Morphology of the drainage systems	
<u>IV LOCAL GEOLOGY</u>	6
1. Stratigraphy and petrology	
2. Structural elements	7
3. Structural geometry	8
<u>V GEOCHEMICAL EXPLORATION</u>	10
1. Introduction	
2. Orientation survey	11
3. Interpretation of mode of occurrence of anomalies and decay pattern	13
4. Main Survey	14
.1 General	
.2 Results	15
.3 The Anomalies	15
.4 Discussion of anomalous zone	17
5. Conclusions	18
<u>VI MINERAL DEPOSITS</u>	19
1. Aclare Mine	
(a) History	
(b) Macroscopic texture and composition	20

	<u>Page</u>
(c) Wallrocks	21
(d) External morphology	
(e) Size of orebody	
(f) Grade of orebody	
(g) Internal morphology	22
(h) Mineralogy and texture	
(i) Surface expression and mineralogy	27
(j) Age of the ore	
2. Scott's Creek Mine	27
3. Old Strathalbyn Mine	29
4. Glenalbyn Mine	30
5. The Wheel Ellen	30
VII <u>SOME NOTES ON GENESIS OF THE ORES</u>	32
Comparison with other regions	33
VIII <u>CONCLUSION</u>	35
<u>REFERENCES</u>	36
A. Aclare Mine	
B. Scott's Creek Mine	36
C. Strathalbyn Mine	37
D. Glenalbyn Mine	37
E. Wheel Ellen	37
F. General geology Kanmantoo group	37
G. Geochemistry - Kanmantoo region	39
H. Geochemistry - General	39
I. General	40
<u>APPENDICES</u>	