

## CONTENTS

Abstract .....	1
1. Introduction .....	3
2. Geology of McMurdo Sound Region .....	7
2.1. Geological review of East Antarctica and McMurdo Sound region ...	7
2.2. Geology of McMurdo volcanics .....	9
2.3. Geology of Ferrar dolerite .....	10
2.4. Geology of Beacon Supergroup .....	10
2.5. Geology of basement complex in Wright Valley .....	11
3. Samples and Sampling Sites .....	13
4. Equipments and Measurements .....	17
5. Paleomagnetism of Cenozoic McMurdo Volcanics .....	19
5.1. Experimental results .....	19
5.2. Paleomagnetic discussion .....	26
5.3. Concluding remarks .....	32
6. Paleomagnetism of Ferrar Dolerite .....	33
6.1. Magnetic hysteresis properties .....	33
6.2. AF demagnetization .....	34
6.3. Thermal demagnetization .....	35
6.4. Thermomagnetic curves and microscopic analyses .....	36
6.5. Paleomagnetic discussion .....	38
6.6. Concluding remarks .....	40
7. Paleomagnetism of Beacon Supergroup .....	42
7.1. Experimental technique .....	42
7.2. Experimental results .....	43
7.3. Paleomagnetic discussion .....	47
7.4. Concluding remarks .....	50
8. Paleomagnetism of Basement Complex in Wright Valley .....	52
8.1. Basic magnetic properties .....	52
8.2. Directional NRM against demagnetization .....	59
8.3. Paleomagnetic discussion .....	66
8.4. Concluding remarks .....	71
9. Synthesizing Paleomagnetic Discussions and Concluding Remarks .....	72
10. Summary .....	76
Acknowledgments .....	77
References .....	78