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INVENTORY OF ANTARCTIC ROCK SPECIMENS HELD
IN AUSTRALIAN INSTITUTIONS

by

J.W. Sheraton

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SUMMARY

This Record provides details of rock specimens from Antarctica which are held in various institutions in Australia and which may be available to bona fide research workers. Those wishing to obtain material from these collections should contact the head of the institution in question.

INTRODUCTION

At a scientific planning meeting at the Antarctic Division of the Department of Science in 1977, it was proposed that an inventory of rocks specimens from Antarctica held in various institutions in Australia should be compiled. It was felt that such a compilation would enable research workers in Antarctic geology to obtain Antarctic rock specimens for their studies and thus maximum use would be made of material collected at considerable expense.

Bona fide research workers wishing to obtain material should contact the head of the University department in question or the Assistant Director (Geology), Bureau of Mineral Resources. The inclusion of rocks in this catalogue is not meant to imply that they will necessarily be immediately available, but every effort will be made to fulfil serious requests.

The first compilation is known to be incomplete in some areas, and the author would be grateful for details of material not included, as well as newly collected specimens. Further information on some collections which have been included is also desirable. Such information would be included in future editions of this inventory. The author's address is: Bureau of Mineral Resources, PO Box 378, Canberra City, A.C.T. 2601.

BUREAU OF MINERAL RESOURCES

Address: Assistant Director (Geology), Bureau of Mineral Resources, PO Box 378, Canberra City, ACT 2601.

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
77284730-41	Bunger Hills	Mafic dykes	
77284869-98, 4978-96 (specimens, some thin sections and rock powders)	Gaussberg	Leucite basalt	
65280004-14, 22, 33-49 (most specimens and thin sections)	Vestfold Hills	Dolerite, felsic gneiss, mafic granulite, amphibolite, pyroxenite, pelitic gneiss	1
65280239-49 (specimens and thin sections)	East Amery Ice Shelf	Granite, basalt, felsic gneiss, mafic granulite	2
69280005-8, 12-37, 73-94, 101-2, 106-9, 130-47, 150, 154, 158-97, 210-22, 230-40. (some specimens and thin sections)	East Emery Ice Shelf, Prydz Bay	Granite, charnockite, granite gneiss, felsic gneiss, mafic granulite, pelitic gneiss, calc-silicate	3
4570-2 (thin sections)	Grove Mountains	Granite, felsic gneiss, calc-silicate	4,5
72280874,6 (specimens and thin sections)	Grove Mountains	Charnockite	5
74282660-83 (specimens and thin sections)	Grove Mountains	Pegmatite, felsic gneiss, siliceous gneiss, calcareous quartzite, calc-silicate	6

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
65280001-3, 15-21, 23, 28-32, 54-65, 81-4, 88, 112-3, 115, 118-9, 122-3, 152-5, 163-7, 200-6 (most specimens and thin sections)	Mawson Coast	Charnockite, felsic gneiss, mafic granulite, pyroxenite, aluminous gneiss, pelitic gneiss	7,8, 18,19
71280411-8, 72280701,703; 72280893-983 (odd nos.); 72280884-930, 934 (even nos.). 73281805-11, 1956-96, 2000B-2100, 2150- 2216, 2251-67. (most specimens and thin sections; some rock powders)	Mawson Coast	Charnockite, pegmatite, alkali basalt, felsic gneiss, mafic granulite, pyroxenite, pelitic gneiss, psammitic gneiss, calc-silicate, sapphirine-enstatite rock, sapphirine-phlogopite rock.	
75830074-106, 260-5, 273, 293- 305 (specimens and thin sections)	Mawson Coast	Charnockite, felsic gneiss, mafic granulite, pyroxenite, pelitic gneiss, psammitic gneiss, quartzite	10
70280119-40, 201- 35, 318-50, 601- 12, 634-40, 645-65 (some specimens and thin sections)	Mawson Coast	Charnockite, alkali basalt, felsic gneiss, mafic granulite, quartzite, pelitic gneiss, calc-silicate	9
77284860-8 (specimens and thin sections; some rock powders)	Mawson Coast	Charnockite	

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
3975-89 (thin sections)	Northern Prince Charles Mountains	Pegmatite, olivine basalt, felsic gneiss, mafic granulite, pelitic gneiss, calc-silicate, sandstone.	11,12
4560-5 (thin sections)	Northern Prince Charles Mountains	Granite, felsic gneiss, sandstone	4
65280256-8 (thin sections)	Northern Prince Charles Mountains	Granite, felsic gneiss, metagabbro	2
69280043-72, 103-5, 148-9, 155-7, 223-9 (some specimens and thin sections)	Northern Prince Charles Mountains	Alkali basalt, granite gneiss, felsic gneiss, mafic granulite, amphibolite, pelitic gneiss, calc-silicate, marble	3,12
69280151-2, 334 (thin sections)	Northern Prince Charles Mountains (Radok Lake)	Alnoite	13
70280001-118, 236-317, 351-3, 403-541, 613-33. 71280001-47, 101-42, 201-52, 300-410, 419-23. (some specimens and thin sections)	Northern Prince Charles Mountains	Granite, pegmatite, charnockite, basalt, metadolerite, granite gneiss, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, pelitic gneiss, psammitic gneiss, quartzite, calc-silicate.	9,12
72280777-891 (odd nos.) 73281593-1600, 1647-50, 1751-1802, 1873-1900, 1951-5 (most specimens and thin sections; some rock powders)	Northern Prince Charles Mountains	Granite, charnockite, pegmatite, alkali basalt, felsic gneiss, mafic granulite, metagabbro, pelitic gneiss, calc-silicate, marble, phyllite	
4567-9, 4599-600, 4609 (thin sections)	Southern Prince Charles Mountains	Felsic gneiss, mica schist, psammite	4

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
R8832-56,66 (thin sections - 7238-62,72)	Southern Prince Charles Mountains	Pegmatite, felsic gneiss, amphibolite, calc-silicate, marble, quartzite, calcareous schist, pelitic schist, mica schist	5,14,15
R11352-71, 11580-1, 11599-600 (thin sections)	Southern Prince Charles Mountains	Granite, alkali basalt, amphibolite, calc-silicate, marble, quartzite, pelitic schist, psammitic schist	5,14,16
65280250-5,9 (specimens and thin sections)	Southern Prince Charles Mountains	Granite, felsic gneiss, amphibolite	2,14
72280700-872, 878-82, 932 (even nos.) 72280705-775 (odd nos.) (most specimens and thin sections; some rock powders)	Southern Prince Charles Mountains	Granite, pegmatite, dolerite, metadolerite, felsic gneiss, mafic gneiss, mafic granulite, pyroxenite, amphibolite, pelitic gneiss, calc-silicate, quartzite, pelitic schist, mica schist	5
73281001-1150, 1201- 1592, 1601-44, 1651- 1750, 1851-71, 1901- 50, 1997-2000A, 2101-49. (specimens and thin sections; some rock powders)	Southern Prince Charles Mountains	Granite, granodiorite, pegmatite, dolerite, metadolerite, granite gneiss, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, ultramafic gneiss, pelitic gneiss, calc-silicate, pelitic schist, mica schist, psammitic schist, quartzite, metaconglomerate, calcareous schist, marble, phyllite, jaspilite.	14
74282505-57, 606-50 (specimens and thin sections)	Southern Prince Charles Mountains	Granite, granodiorite, aplite, pegmatite, dolerite, felsic gneiss, mafic gneiss, amphibolite, pelitic gneiss, calc-silicate, quartzite, psammo-pelite, mica schist, calcareous schist, black slate, metagreywacke, metaconglomerate.	6
3933-58 (thin sections)	Kemp Land, Enderby Land	Pegmatite, dolerite (moraine), metadolerite (moraine), felsic gneiss, mafic granulite, pyroxenite, quartzite, quartz-epidote rock, pyroxene-magnetite rock, pyroxene-magnetite-quartz rock.	11

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
4573-97 (thin sections)	Kemp Land, Enderby Land	Charnockite, dolerite, anorthosite, granite gneiss, felsic gneiss, mafic granulite, pyroxenite, amphibolite, pelitic gneiss, quartzite, marble.	4,10
R8858-65, 67-78 (thin sections - 7264-71, 73-84)	Kemp Land, Enderby Land	Granite, dolerite, felsic gneiss, mafic granulite, amphibolite, marble, pyroxene-magnetite-quartz rock	10,15
65280024-7, 50-3, 66-87, 114, 116-7, 120-1, 127-51, 156-62, 168-99, 207-33.	Kemp Land	Pegmatite, dolerite, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, garnet pyroxenite, aluminous gneiss, calc-silicate, marble, quartzite, pyroxene-magnetite-quartz rock	1,7,8,10, 18,19
75830001-72, 201- 59, 266-71, 281-92 (specimens and thin sections)	Kemp Land, Enderby Land	Granite, pegmatite, dolerite, metadolerite, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, pelitic gneiss, metajaspilite	10
76283001-287, 301-17, 350-71 (specimens and thin sections; some rock powders)	Kemp Land, Enderby Land	Granite, dolerite, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, pelitic gneiss, quartzite, calc-silicate, pyroxene-magnetite-quartz rock, sapphirine-phlogopite rock	17
77283401-4859, 78285001-31 (specimens and thin sections; some rock powders)	Kemp Land, Enderby Land	Granite, granodiorite, charnockite, dolerite, alkali basalt, felsic gneiss, mafic gneiss, mafic granulite, amphibolite, pyroxenite, garnet pyroxenite, olivine pyroxenite, pelitic gneiss, quartzite, calc-silicate, marble, pyroxene-magnetite-quartz rock, sapphirine-phlogopite rock, sapphirine-enstatite rock.	
75830109-30, 306-13 (specimens and thin sections)	Macquarie Island	Basalt, gabbro, dolerite, wehrlite, arenite	10

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17. SHERATON, J.W., & OFFE, L.A., 1977 - Geological work in Antarctica, 1977. Bureau of Mineral Resources, Australia, Record 1977/60 (unpublished).
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19. TRAIL, D.S., 1970 - ANARE 1961 geological traverses on the MacRobertson Land and Kemp Land Coast. Bureau of Mineral Resources, Australia, Report 135.

SCHOOL OF EARTH SCIENCES, MACQUARIE UNIVERSITY

Address: North Ryde, New South Wales 2113.

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
50 specimens (some thin sections)	McMurdo Sound area	Marble, calc-silicate, felsic gneiss, schist, amphibolite,	1

Reference

1. WILLIAMS, P.F., HOBBS, B.E., VERNON, R.H., & ANDERSON, D.C., 1971 - The structural and metamorphic geology of basement rocks in the McMurdo Sound area, Antarctica. Journal of the Geological Society of Australia, 18, 127-42.

DEPARTMENT OF GEOLOGY, UNIVERSITY OF MELBOURNE

Address: Parkville, Victoria 3052.

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
373 thin sections			1
40+ thin sections	Cape Royds, Mt Erebus	Limestone (Cambrian), erratics, etc.	2
Specimens and thin sections	Kerguelen Archipelago	Tertiary lavas	3

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DEPARTMENT OF EARTH SCIENCES, MONASH UNIVERSITY

Address: Clayton, Victoria 3168

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
	Ohio Range, Wisconsin Range, Darwin Mts, Beardmore Glacier, and Dry Valleys, Transantarctic Mountains	Buckeye, Metschel, Darwin, Pagoda, and Boreas Tillites (Permian)	
	Pensacola Mts, Transantarctic Mountains	Gale Mudstone (Permian)	
	Sentinel Range, Ellsworth Land	Whiteout Conglomerate (Permian)	
	Falkland Islands	Lafonian Tillite (Permian)	
	South Georgia	Turbidites from Cumberland Bay and Sandebugten Series (Cretaceous)	
	DSDP Leg 28, Sites 264-274	Cherts, biogenic oozes, clastic sediments, etc.	

DEPARTMENT OF GEOLOGY AND MINERALOGY, UNIVERSITY OF QUEENSLAND

Address: St Lucia, Queensland 4067

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
12016, 21-2	Mt Erebus	Kenytite	1
12024	Turks Head	Oligoclase basalt	1
12026-51	Adelie Land	Granite, gneiss, pyroxene granulite, amphibolite, mica schist, quartzite breccia, slate, siliceous limestone	1
54	Mirny	Charnockite	2
41	Larsemann Hills	Granite gneiss	2
38	Grove Mountains	Gneissic granite	2
60-1, 64	Prince Charles Mountains	Sandstone, felsic gneiss	2
44-5, 55, 11961-75, 85-90, 12010-4	Mawson Coast	Charnockite, xenoliths, felsic gneiss, mafic granulite, sapphirine-bearing rock	2
46-53, 57-8	Kemp Land, Enderby Land	Felsic gneiss, mafic gneiss, ultramafic, quartzite	2

References

1. AUSTRALASIAN ANTARCTIC EXPEDITION, 1911-1914.
2. McLEOD, I.R., 1959. Report on geological and glaciological work by the 1958 Australian National Antarctic Research Expedition. Bureau of Mineral Resources, Australia, Record 1959/131 (unpublished).

DEPARTMENT OF GEOLOGY AND GEOPHYSICS, UNIVERSITY OF SYDNEY

Address: New South Wales 2006.

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Types</u>	<u>Reference</u>
	Ross Archipelago, South Victoria Land	Volcanics	1
25 specimens (some thin sections)	McMurdo Sound area	Marble, calc-silicate, amphibolite, felsic gneiss	2

References

1. CAMPBELL SMITH, W., 1954. Volcanic rocks of the Ross Archipelago, South Victoria Land. British (Terra Nova) Antarctic Expedition, 1910. Natural History Report, Geology, Vol. 2, Part 1.
2. WILLIAMS, P.F., HOBBS, P.E., VERNON, R.H., & ANDERSON, D.E., 1971 - The structural and metamorphic geology of basement rocks in the McMurdo Sound area, Antarctica. Journal of the Geological Society of Australia, 18, 127-42.

GEOLOGY DEPARTMENT, UNIVERSITY OF TASMANIA

Address: Box 252C, GPO, Hobart,
Tasmania 7001.

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Type</u>	<u>Reference</u>
87016a- 874540c	Ellsworth Land	Middle and late Jurassic faunas and flora	1-5
34055-63, 74-132	Ellsworth Land	Granitic rocks, volcanics, metamorphics and sediments	1
34064-73	Mt Erebus	Volcanics	
367-378	Southern Victoria Land	Granite, kelyte, basalt, trachyte, schist, gneiss, pyroxene granulite, garnet aplite, Beacon sandstone	6
7900-37	Mawson	Granitic rock, gneiss, amphibolite, granulite (all from moraine)	
39976-80	Mawson	Charnockite	

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6. BRITISH ANTARCTIC EXPEDITION, 1907-9.

DEPARTMENT OF GEOLOGY, UNIVERSITY OF WESTERN AUSTRALIA

Address: Nedlands, Western Australia 6009

<u>Sample Numbers</u>	<u>Locality</u>	<u>Rock Type</u>	<u>Reference</u>
46971-6	McMurdo Sound area	Siltstone, mudstone, meta-coal	
47968	Mt Erebus	Kenytite	
54171	Gaussberg	Leucite basalt	
44208-13	Beaver Lake, Northern Prince Charles Mountains	Coal, carbonaceous shale (Permian)	1

Reference

1. BALME, B.E., & PLAYFORD, G., 1967 - Late Permian plant microfossils from the Prince Charles Mountains, Antarctica. Revue de Micropaleontologie, 10, 179-92.