NOMENCLATURE OF ROCK UNITS IN THE ROSS SEA REGION, ANTARCTICA

By Dr. H. J. HARRINGTON

New Zealand Geological Survey

MEETING of ten British Commonwealth geo-A logists who had worked in Antarctica with the Trans-Antarctic Expedition, the New Zealand Ross Sea Expedition, the New Zealand Geological Survey Expedition and the Falkland Islands Dependencies Survey, was held in Wellington in March to exchange information gathered in recent seasons. It became clear that communication of results is hampered by an almost complete lack of a formal nomenclature for rock units of the Ross Sea-Weddell Sea region, the rocks being described, except in the case of the Beacon Sandstone, as 'the Dolerites' or 'the Schists and Marbles' and so on. A nomenclature for the major regional units was devised at the meeting for use in forthcoming publications and maps and, as there are no international arrangements for this matter, it is set out below with explanatory notes. It should help to prevent the confusion that could arise if different nomenclatures were proposed by geologists of expeditions now scattered in several homelands. In devising it, the meeting had as part of its background a knowledge of some of the recent work by United States and Soviet geologists described at an earlier meeting held in Wellington in February.

Quaternary	Moraines, beaches, etc
Upper Tertiary and Quaternary	McMurdo Volcanics
? Jurassic or Cretaceous	Ferrar Dolerites
Palæozoic and Mesozoic	Beacon System
Lower Palæozoic or Precambrian	Admiralty Intrusives
Lower Palæozoic or Precambrian	Ross System

McMurdo Volcanics (Group). This term is proposed for the volcanic rocks of Quaternary and possibly Upper Tertiary age in the Ross Archipelago and other islands in the Ross Sea, the Balleny Islands and Scott Island, and parts of the coast of Victoria Land. The unnamed volcanic rocks of Marie Byrd Land are tentatively excluded. The name 'Ross Volcanics' is not used, to avoid confusion with the volcanic rocks of James Ross Island (Graham Land).

Ferrar Dolerites (Group). Dolerite sills and dykes occurring abundantly in the Beacon Sandstone in the Ferrar Glacier district and other parts of Victoria Land, and also in the Beacon System in Adelie Land, and elsewhere, are called the Ferrar Dolerites. Several geologists at the meeting considered that the dolerites of Adelie Land and elsewhere should be distinguished within the group by regional formation names from the type Ferrar Dolerites (Formation) of Victoria Land.

Beacon System. The Beacon Sandstone was named by Ferrar from its occurrence at Beacon Heights in Victoria Land. Similar sandstone and associated sediments occur widely in far distant regions in Antarctica and have either been called Beacon Sandstone or compared and correlated with it. It was the opinion of the meeting that all occurrences could be classified together as Beacon System, that the type rocks in Victoria Land could be called Beacon Sandstone (Group), and that local group names might be appropriate at present in other regions.

Admiralty Intrusives (System). The system consists of pre-Beacon intrusives, predominantly granite and granodiorite, in the Ross System. The type rock is the Tucker Granodiorite (new name) of the Admiralty Mountains in northern Victoria Land. The granitic and granodioritic rocks of the McMurdo Sound region are included, as well as, tentatively, those of Marie Byrd Land.

Ross System. The pre-Beacon sediments and metamorphosed sediments so far described from the Ross Sea region are unnamed marbles, schists and associated rocks occurring in Victoria Land from Terra Nova Bay southwards through the Royal Society Range, the 'slate-greywacke formation of Robertson Bay', and unnamed thick 'greywacke'-type sequences of sandstone and shale in Marie Byrd Land. In addition, occurrences of limestone containing Archaeocyathinae are known in the Beardmore Glacier district, and seem to be extensive in the Weddell Sea region.

Recent field work has shown that the Admiralty Mountains of northern Victoria Land consist mainly of an assemblage of quartzose greywacke and argillite, meta-greywacke and meta-argillite, schist and some metamorphosed limestone which is being called Moubray Group (new name) and almost certainly includes the 'slate-greywacke formation of Robertson Bay'. Inspection of aerial photographs shows that this group extends south of the Admiralty Mountains towards Wood Bay and Terra Nova Bay. Farther south, rocks of closely similar lithology are associated with marble and schist in the McMurdo Sound region. It is suggested that all these rocks in Victoria Land may be called Ross System, the type beds being those of the Moubray Group. The rocks of the Ross System in Victoria Land give the impression of being the deposits in a major geosyncline in which the shelf sediments with carbonate rocks were deposited in the McMurdo Sound district and southwards, and the deeper-water sediments with few carbonate rocks were deposited in northern Victoria Land.

The sediments of the Moubray Group strike eastsouth-east into the Ross Sea and towards the very thick greywacke-type assemblages striking north and north-west of the Edsel Ford and Rockefeller Mountains in Marie Byrd Land. Several geologists at the Wellington meeting considered that this is reasonable evidence for tentatively including the Marie Byrd Land assemblages in the Ross System, though distinguishing them by the names Edsel Ford and Rockefeller Groups. If this is done, the only known pre-Beacon sedimentary rock of the lands surrounding the Ross Sea that is not included in the Ross System is the limestone of the Beardmore Glacier-Weddell Sea region that in at least one place contains *Archaeocyathinae*. It seems that its classification must await further work.