

is not unreasonable to represent the volcanoes that have pre-caldera lavas less than 1 million years old as "active," and the remaining ones that are less than 10 million years old as dormant. A more conservative representation might show only Mount Berlin as active, because of multiple evidences of recent activity, and the remaining Plio-Pleistocene volcanoes as dormant. The only visit to the summit of Mount Takahe, where fumarolic activity is most likely to be found, was described by Anderson (1960). No fumarolic activity was reported by Anderson's party, nor by a reconnaissance survey of the lower flanks of the mountain in 1968. To our knowledge, the summit calderas of Mount Waesche, Toney Mountain, and Mount Murphy have never been searched for evidence of fumarolic activity.

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## Geology, paleontology, and bibliography of the Ellsworth Mountains

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Considerable progress was made during the past year in the investigation of the large volume of information, rocks, minerals, and fossils collected during the 1979-80 Ellsworth Mountains expedition. Data and material collected on earlier expeditions to this area also were examined. These studies, coordinated among more than 25 senior investigators, involve structural, stratigraphic, paleomagnetic, paleontological, sedimentological, and geomorphic aspects of the Ellsworth Mountains. All of the 17 fossil localities sampled during the 1979-80 season and all stratigraphic units are being studied. A noteworthy recent accomplishment is the completion of a major revision of the lower 7,800 meters of the stratigraphic column (that is, subdivision of the Heritage Group and overlying Minaret Formation into formations and members).

Several significant publications have already resulted from the 1979-80 field project in the Ellsworth Mountains, and many others are in various stages of preparation. A bibliography compiled for use in planning meetings prior to the field season has been updated to include all known literature concerning geologic investigations in the Ellsworth Mountains as well as popular literature and literature on mountaineering.

Titles of papers for the Fourth International Symposium on Antarctic Earth Sciences (Adelaide, Australia, August 1982) are included, as are the citations for 13 papers given at a symposium on the geology of the Ellsworth Mountains organized and chaired by C. Craddock, G. F. Webers, J. F. Splettstoesser, and M. D. Turner as a half-day session at the 1982 annual meeting of the Geological Society of America (GSA) (New Orleans, Louisiana, October 1982). Only abstracts are printed for the GSA papers, but first drafts of complete manuscripts for most of them were submitted by the authors at the time of the New Orleans meeting. These papers, and about 10 to 15 more, will make up a volume on the geology and paleontology of the Ellsworth Mountains, being edited by C. Craddock, J. F. Splettstoesser, and G. F. Webers for the Memoir Series of the Geological Society of America. It is intended to include colored geologic maps of the entire range as plates.

An abridged version of the bibliography is presented here; an unabridged version, including more than 100 citations, some with annotations, is also available (on request from G. F. Webers). In the unabridged version, annotations are included for some of the entries because their titles do not indicate relevance to the Ellsworth Mountains. For example, the Schopf and Long article (1966; see bibliography), which includes analyses of three samples of coal from the Polarstar Formation (the only known published analyses of coal from the Ellsworth Mountains), would not have been indexed in *Antarctic Bibliography to*

the Ellsworth Mountains but certainly would be useful to an investigator researching material from that area.

The unabridged version of the bibliography was compiled primarily as an aid to investigators who are preparing manuscripts for the proposed volume mentioned previously, but, as noted, it is available to others. The bibliography is stored on a word processor disk at the Minnesota Geological Survey. It would be appreciated if readers would report any corrections or additions to either of the authors.

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## Mount Poster Formation, southern Antarctic Peninsula and eastern Ellsworth Land

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Throughout the Antarctic Peninsula and eastern Ellsworth Land, calc-alkaline volcanic and plutonic rocks of Mesozoic and Tertiary age formed during eastward subduction of oceanic lithosphere of the Pacific plate along the western margin of Gondwanaland prior to and during plate breakup. The igneous rocks record the development of a magmatic arc that had different pulses of activity. The volcanic rocks are included within the Antarctic Peninsula Volcanic Group (Thomson 1982b) of Early Jurassic to Tertiary age (Thomson and Pankhurst 1982). The group contains rocks of different facies, ages, and plate-tectonic settings whose stratigraphic relations and upper and lower contacts are not well known. This article proposes a formation name for volcanic rocks of the group that formed during a Jurassic pulse (Rowley 1978; Rowley and Williams 1982).

The Mount Poster Formation is herein defined for a sequence of volcanic rocks and sparse sedimentary rocks that underlie mostly axial parts of the southern Antarctic Peninsula and eastern Ellsworth Land. The first formation proposed for the Antarctic Peninsula Volcanic Group, it occurs in the southern part of the area underlain by the group. The volcanic rocks in this area were described but left unnamed by Williams and others (1972), who also proposed the name Latady Formation for exposures in

the Latady Mountains of contemporaneous sedimentary rocks. The type locality for the volcanic rocks is at Mount Poster (74°12'S 65°20'W), west of the Latady Mountains in the southwestern Lassiter Coast (figure).

Mount Poster is a peak on the western end of an east-trending ridge about 3 kilometers long. As elsewhere in the general area, the rocks are folded and strike parallel to the Pacific margin; most beds at the type locality dip steeply northwest. The eastern part of the ridge consists of siltstone, sandstone, and slate of the Latady Formation, in which lava flows and ash-flow tuffs are interbedded. Mount Poster consists of volcanic rocks at least 600 meters thick, which overlie the sedimentary rocks exposed in the eastern part of the ridge; these sedimentary rocks are considered distal, lower parts of the Latady Formation. Most volcanic rocks in the type locality are dark-grayish-green andesitic to dacitic lava flows and ash-flow tuff. Light-gray and tan, thinly bedded, rhyodacitic air-fall and water-laid tuff, gray volcanoclastic sandstone and siltstone, and grayish-green dikes and volcanic breccia also occur at Mount Poster. Most rocks are in beds 1 to 10 meters thick and have undergone chlorite-grade metamorphism.

Ash-flow tuff at the type locality contains phenocrysts of plagioclase, subordinate embayed "beta" quartz, subordinate to minor sanidine, sparse iron-titanium (Fe-Ti) oxides, and sparse metamorphosed ferromagnesian minerals (apparently mostly hornblende). Most lava flows contain sparse phenocrysts of hornblende, plagioclase, and Fe-Ti oxides in an aphanitic groundmass. Air-fall tuff beds contain glass shards that have been recrystallized to fine-grained quartz.

Volcanic rocks of the Mount Poster Formation are widely exposed in northwestern parts of the southern Black Coast (Rowley 1973; Rowley et al. in press; Rowley and Williams 1982), Orville Coast (Rowley 1978), and eastern Ellsworth Land (Laudon 1972; Laudon et al. 1969; Rowley 1978). Volcanic rocks of similar lithology and setting in the west-central Black Coast