The source of these clasts has not yet been determined. However, given the broad distribution of volcanic clasts and the apparent lack of volcanic vents (as determined by the field party's reconnaissance of exposed bedrock areas, especially those adjacent to and east of the Victoria Lower Glacier), the clasts were most probably derived from the Ross Sea floor to the east and then transported into the valley by glacier ice moving inland from the sea.

Looking for evidence of early glaciation, the field party also examined high bedrock surfaces on Hansen Ridge, the unnamed ridge south of Greenwood Valley, the Purgatory Peak area, and the unnamed ridge south of Clark Glacier and overlooking Wright Valley. Preliminary analysis suggests that ice flowing westward from the Ross Sea reached present elevations of at least 975 meters.

In addition, the field party collected algae and calcareous concretions from several depressions on an ice-contact delta at the eastern end of Lake Vida, as well as algae from within the delta. When subjected to radiocarbon analysis, these samples should indicate the age of one of the several terminal positions of the Victoria Lower Glacier, assuming that the age of the samples lies within the range of the dating method.

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References

Borns, H. W., Jr. 1978. Ross Sea glaciations: events in Lower Victoria Valley. *Antarctic Journal of the United States*, 13(4): 43-44.

Calkin, P. E. 1971. Glacial geology of the Victoria valley system, Southern Victoria Land, Antarctica. In Antarctic Research Series, vol. 16, ed. A. P. Crary, pp. 363–412. Washington, D.C.: American Geophysical Union.

Denton, G. H. 1971. The Late Cenozoic glacial history of Antarctica. In *Late Cenozoic Glacial Ages*, ed. K. K. Turekian, pp. 267–306. New Haven, Conn.: Yale University Press.

Glaciology and glacio–geomorphology in Victoria Land and Queen Maud Mountains

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During the past year, data analysis has been undertaken on the recent and past dynamics of several northern Victoria Land glaciers, notably Rennick Glacier; the dynamics of selected rock glaciers in Wright Valley; and on the weathering characteristics of dolorites in the Queen Maud Mountains.

The primary conclusions drawn from the 1974–75 Rennick Glacier study (Mayewski, 1975; Mayewski and Attig, 1979; and Mayewski, Attig, and Drewry, 1979) include the characterization of former ice surface levels in this portion of northern Victoria Land and the dynamics of the recent changes in snowpatch cover on several massifs adjacent to Rennick Glacier.

The results of a pilot study of the dynamics of two rock glaciers in Wright Valley are being analyzed. This work draws together the results of short-term observations collected during the 1968–69, 1970–71, 1971–72, and 1974–75 seasons dealing with the dynamics of these features.

Results of a weathering study conducted on a suite of dolerites collected at Halfmoon Bluff, adjacent to the Shackleton Glacier, Queen Maud Mountains, appear in Talkington, Gaudette, and Mayewski (1976) and in a paper soon to be submitted for publication. Conclusions drawn in these papers deal with the style of chemical and physical weathering affecting this lithology, use of this lithology as a relative dating tool, and estimates of mass wasting-rates employing relative dating.

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References

Mayewski, P. A. 1975. Glacial geologic investigation of the upper Rennick Glacier region, northern Victoria Land, Antarctica. *Antarctic Journal of the United States*, 10(4): 164–66.

Mayewski, P. A., J. W. Attig, and D. J. Drewry. 1979. Pattern of ice surface decline for the Rennick Glacier, northern Victoria Land, Antarctica. *Journal of Glaciology*, vol. 22, no. 86.

Talkington, R., H. Gaudette, and P. A. Mayewski. 1976. Preliminary investigation of the weathering stages of a tholeiitic basalt (dolerite), Queen Maud Mountains, Antarctica. *Antarctic Journal of the United States*, 11(4): 242–45.