

Relict Algal Mats at Reedy Glacier: Radiocarbon Dating at 86°S

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We report here the discovery of relict algal mats at Polygon Spur (86S, 126W, 1600 m elevation) adjacent to Reedy Glacier. These well-preserved mats are found beneath large boulders, similar to the situation in the Dry Valleys (i.e., Hall and Denton, 2000) and at Hatherton Glacier (Bockheim et al., 1989).

The algae once grew in proglacial lakes dammed by an expanded McCarthy/Reedy Glacier system and are found at elevations as much as 100 m above present-day ponds and ~90 m above ice level. In order for these lakes to have formed, Reedy Glacier must have been thicker than at present. Based on our mapping and dating of drift sheets (see Bromley et al., and Todd et al., this meeting), we speculate that the higher lake levels date to the last glacial maximum. Radiocarbon dating of algal remains (in progress) at different elevations should help to define the McCarthy/Reedy Glacier ice-thinning history and will afford useful comparisons to cosmogenic exposure ages, also in progress. To our knowledge, these samples will yield the southernmost radiocarbon dates yet produced.