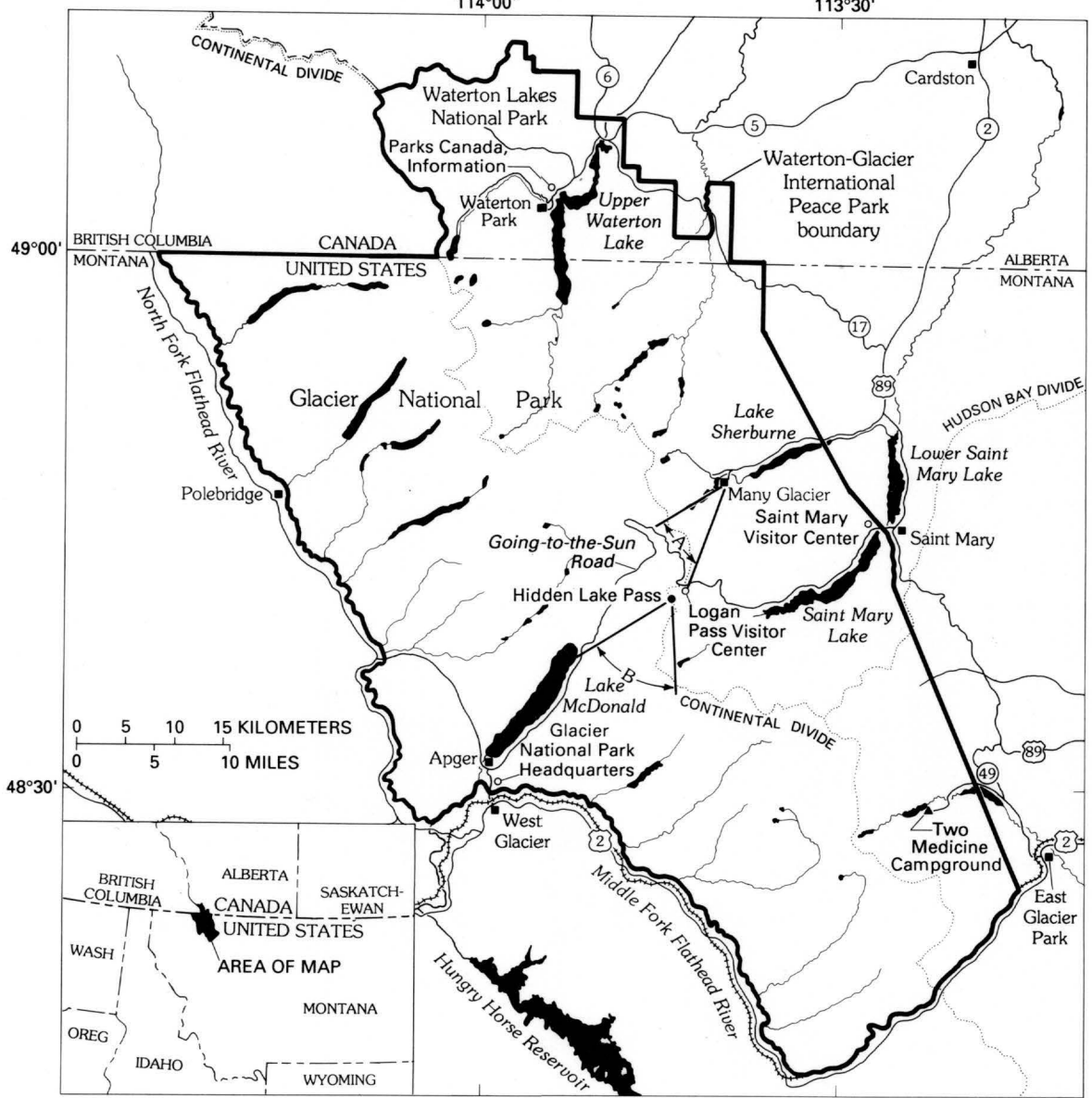


SKETCH A—VIEW FROM MANY GLACIER, GLACIER NATIONAL PARK



WATERTON-GLACIER INTERNATIONAL PEACE PARK  
SHOWING LOCATIONS OF SKETCHES A AND B

EXPLANATION OF PRECAMBRIAN ROCKS<sup>1</sup>  
(listed from youngest to oldest)

**Snowslip Formation**—Argillite, siltite, and minor amounts of quartzite and carbonate-rich rocks, varies from pale red to pale green with other shades of yellow, orange, and light purple; contains a few thin fossil algae (stromatolite) beds, 430 m (1,400 ft) thick.

**Helena Formation**—Primarily dolomite with some limestone; contains variable amounts of fine-grained quartz and clay minerals; medium to dark gray, weathers to various shades of tan; abundant fossil algae (stromatolites); upper part of formation is intruded by dark grayish-brown to black diorite sill forming conspicuous layer, 760 m (2,500 ft) thick. Also called Sijeh Limestone.

**Empire Formation**—Dolomitic siltite, argillite, and quartzite; varies from gray to green plus a few thin beds of red argillite; weathers buff to light tan; 245 m (800 ft) thick.

**Grinnell Formation**—Argillite and siltite and numerous thin beds of quartzite; red to purplish red and a few thin green beds; quartzites commonly white; abundant ripple marks, mud cracks, crossbedding, and mud-chip breccias, 466 m (1,420 ft) thick.

**Appokunni Formation**—Argillite and siltite; thick beds of quartzite near base of formation on east side of park; gray to greenish gray and a few thin dark-red to purplish-red beds; ripple marks and thin, flat laminae present; some layers show soft-sediment deformation, 820 m (2,700 ft) thick.

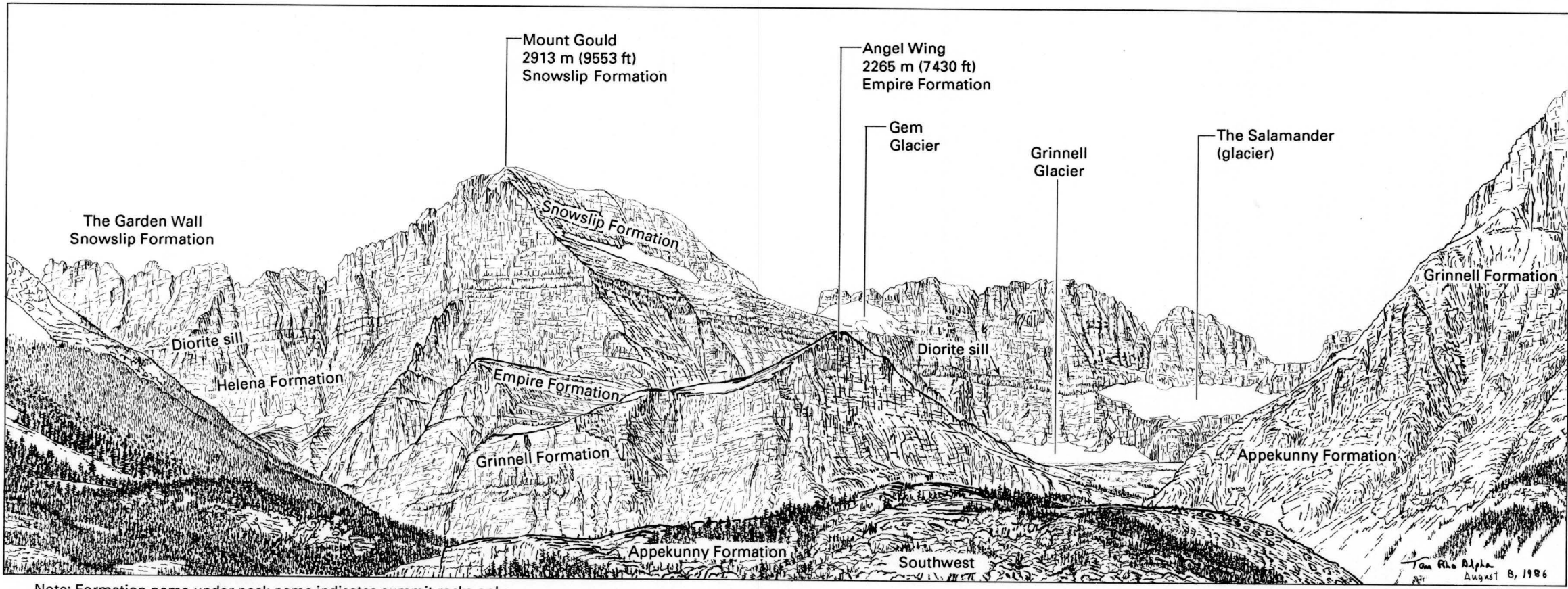
<sup>1</sup> From Ross (1959), Harrison (1972), and Raup and others (1983).

REFERENCES CITED

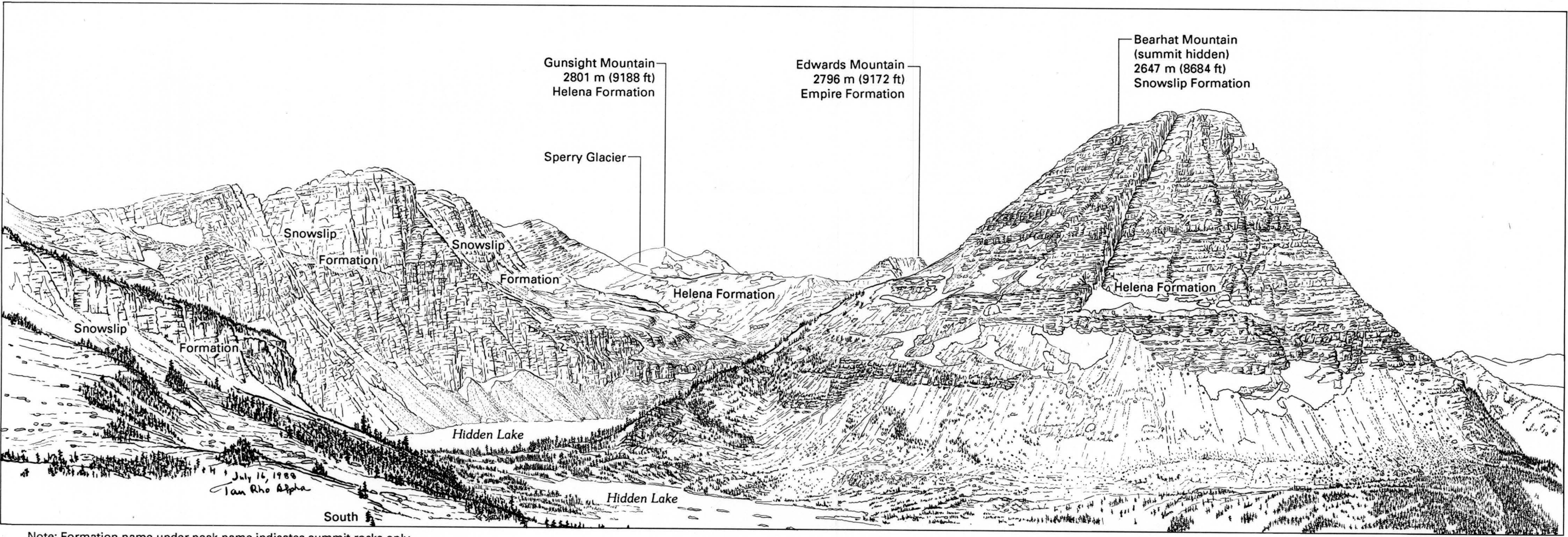
Harrison, J.E., 1972, Precambrian Belt basin of northwestern United States: its geometry, sedimentation, and copper occurrences. Geological Society of America Bulletin, v. 83, no. 5, p. 1215-1240.  
Raup, O.B., Earhart, R.L., Whipple, J.W., and Carrara, P.E., 1983, Geology Along Going-to-the-Sun Road, Glacier National Park, Montana. West Glacier, Montana, Glacier Natural History Association, 62 p.  
Ross, C.P., 1959, Geology of Glacier National Park and the Flathead Region, northwestern Montana. U.S. Geological Survey Professional Paper 296, 125 p.

ACKNOWLEDGMENTS

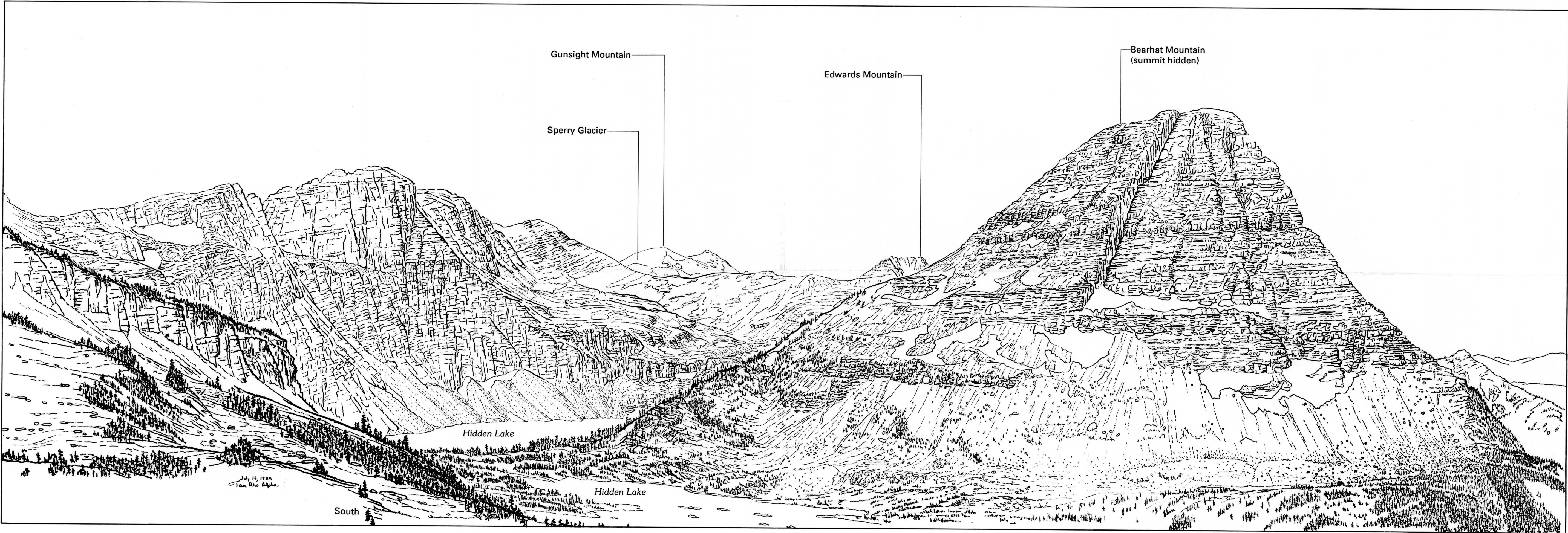
The authors thank Carl H. Key, Beth Ladeau, and George McFarland for sharing their knowledge and enthusiasm of Waterton-Glacier International Peace Park.



GEOLOGIC INDEX FOR SKETCH A



GEOLOGIC INDEX FOR SKETCH B



SKETCH B—VIEW FROM HIDDEN LAKE PASS, GLACIER NATIONAL PARK

GEOLOGIC SKETCHES FROM MANY GLACIER, HIDDEN LAKE PASS, COMEAU PASS, AND BEARS HUMP VIEWPOINT,  
WATERTON-GLACIER INTERNATIONAL PEACE PARK, ALBERTA, CANADA, AND MONTANA, UNITED STATES

By  
Tau Rho Alpha and Willis H. Nelson  
1990



M(200)  
I  
no.1508-E  
sheet 1  
c.1

For sale by U.S. Geological Survey, Map Distribution,  
Box 2098, Federal Center, Denver, CO 80225

