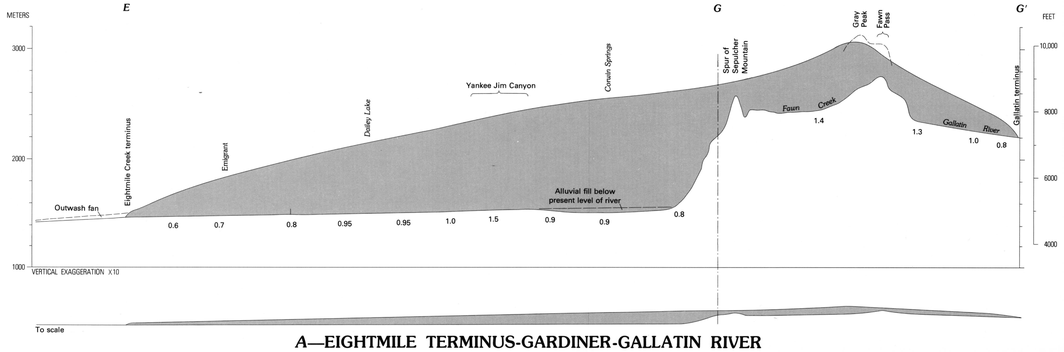
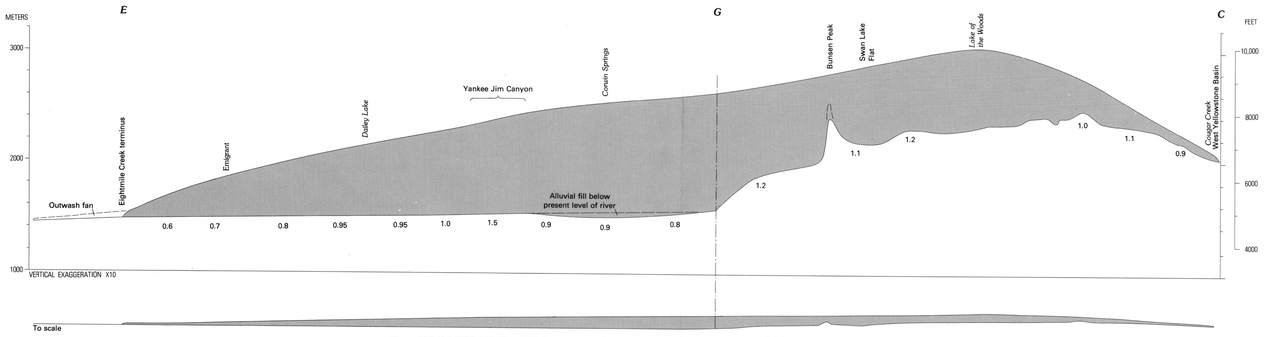
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

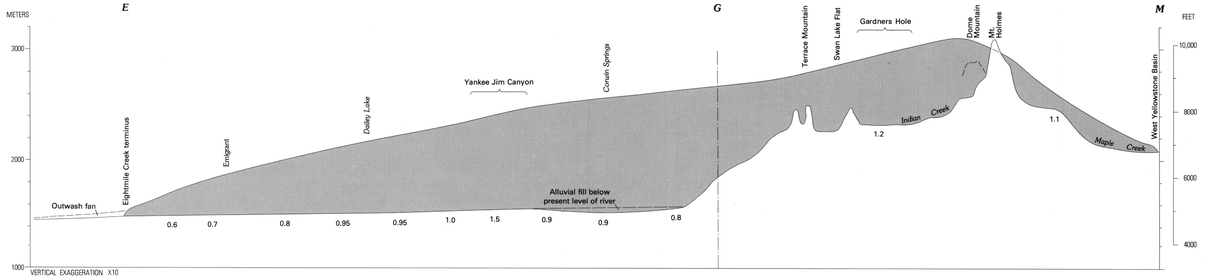
PROFESSIONAL PAPER 729–F
PLATE 4



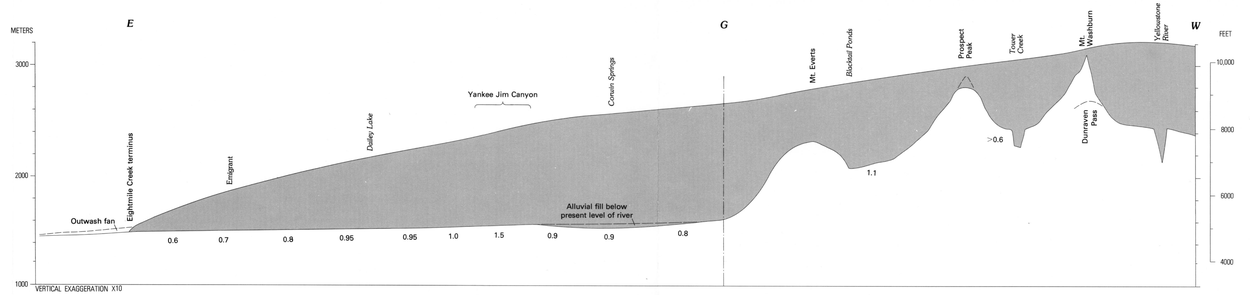
A—EIGHTMILE TERMINUS-GARDINER-GALLATIN RIVER



B—EIGHTMILE TERMINUS-GARDINER-COUGAR CREEK



C—EIGHTMILE TERMINUS-GARDINER-MAPLE CREEK



D—EIGHTMILE TERMINUS-GARDINER-MT. WASHBURN

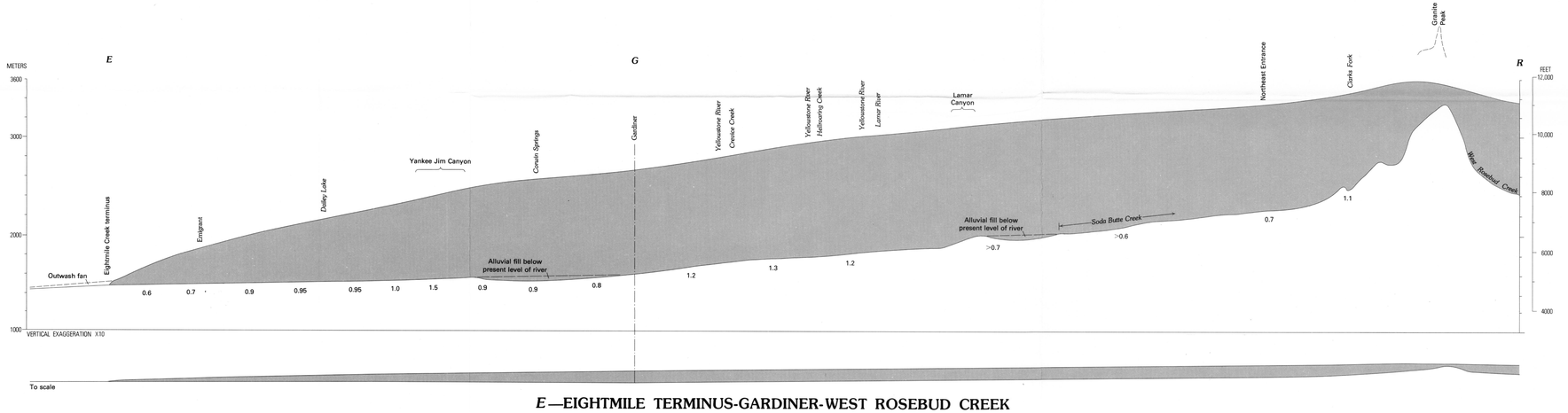
SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

The locations of the sections are shown on plate 1A. Patterned area indicates configuration of full-glacial icemass. The sections extend from the Pinedale terminus in the Yellowstone valley, up to Gardiner, from which sections are drawn towards the various icecap sources and then down to termini in (1) the Gallatin River valley, (2) the Maple Creek valley, and (3) the Cougar Creek valley.

The profile sections show that the thicker the ice, the more gentle the slope of the ice surface. The cosecant (1/sin) of the surface slope tends to be proportional to the thickness, as indicated by the equation for primary basal shear stress in text of report. Beneath the profile sections are shown the values of basal shear stress as calculated from the ice slope, thickness, and valley shape. (See fig 48, and table 3, this report.) In some places the inferred values of ice slope and thickness indicate values of basal shear stress that seem too low, such as the Washburn Range (sec. EGW) and the Lamar valley (sec. EGR). There the altitude shown for the ice surface is the minimum altitude provided by the highest peaks; the actual altitude of the ice surface was probably 100 m higher. Short-dashed lines, projection into plane of sections of nearby geographic features.



E—EIGHTMILE TERMINUS-GARDINER-WEST ROSEBUD CREEK

PROFILES AND SECTIONS OF FULL-GLACIAL PINEDALE ICEMASS, NORTHERN YELLOWSTONE NATIONAL PARK AREA, MONTANA AND WYOMING

★U.S. GOVERNMENT PRINTING OFFICE: 1979–677-129 / 26