

## THE GEOLOGY OF CENTENNIAL RIDGE

ALBANY COUNTY, WYOMING

GEOLOGICAL SURVEY OF WYOMING

by

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Centennial Ridge is a crescent shaped mountain bordering the west flank of Centennial Valley. It is flanked on its west face and south end by Middle Fork Canyon and on the north by Mullen Creek. It is approximately 4 miles long in a north and south direction and two miles wide. It occupies all or part of sections 4, 5, 8, 9, 16, 17, 20 and 21, all in T. 15 N., R. 78 W.

GEOLOGY

With the exception of flanking hogbacks of Paleozoic sediments which extend part way up the east face of the Ridge, the exposed surface rocks consist of a complex of igneous and metamorphic rocks of pre-Cambrian age. The rocks consist for the most part of an alternating succession of biotite and hornblende schists which are cut by a number of intrusive rocks. According to Hess,<sup>1</sup> the intrusive rocks range in composition from granodiorite to amphibole. Hess gives the following indicated sequence of order of intrusion: "Fine-grained, highly gneissoid biotite granite, coarse hornblende gneiss (originally hornblende granodiorite), amphibolite (cutting the hornblende granodiorite), and fine-grained pink biotite granodiorite associated with alaskite." The schists stand vertical and strike in a N.N.E. direction. There are also present thin lenticular masses of limestone. Veins made up for the most part of quartz, hornblende, feldspar and calcite crop out in a number of places. The veins are, as a rule, parallel to the schistosity. In three reported occurrences, the Centennial, the Utopia and the Free Gold (Billy Waters), gold has been recovered from these veins. There are no records known to the writer of gold yield per ton in these occurrences. The vein on the Free Gold claim is reported to be two feet wide.

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1. Hess, Frank L., Platinum near Centennial, Wyo., U. S. Geol. Survey Bull. 780, p. 129, 1926

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Beckwith has recently shown that the east front of the Medicine Bow Mountains has been extensively faulted. Thrust and tear faults of large magnitude cut across the north and south extremities of Centennial Valley. One major fault zone occurs at the southern end of Centennial Ridge. This fault zone has not been traced westward into the pre-Cambrian rocks. Another major fault zone lies north of the ridge. From what is known of the standard relations of the region, it is concluded that the rocks of Centennial Ridge are characterized by numerous faults of varying character and magnitude. The position, the direction and extent of movement of faults which may occur in the pre-Cambrian rock of the area are unknown, and the direction and amount of movement of such faults cannot be determined without subsurface data.