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94 Klondike (89) Item 26

87 Fish Lake Valley

ES-10. INYO BATHOLITH

General location: Northeast flank of the White Mountains.

Coordinates: lat 37°51' N., long 118°21' W.

Land classification: Inyo National Boundary Peak Forest.

Area: 103 km^2 (cumulative).

Accessibility: 18 km southeast of U.S. Highway 6 and 2 km west of State Highway 3A.

Remoteness: Approximately 50 km northeast of Bishop (population 3,498), Calif. Other minor villages include: Dyer (population 10), 1 km northeast of easternmost exposure; Benton, Calif., approximately 9 km to the southwest; and Coaldale (population 35), approximately 36 km to the northeast.

Geologic setting: The batholith of Jurassic and Cretaceous age is composed of quartz monzonite and contains inclusions and pendants of Precambrian and Paleozoic rocks that have been metamorphosed. The batholith has intruded the following: Precambrian Wyman Formation, composed of siltstone and limestone, and the Reed Dolomite; Cambrian Harkless Formation, composed of siltstone; and the Ordovician Palmetto Formation, composed of shale, chert, limestones, and quartzite. Tertiary volcanic rocks include quartz-latite lava flows, nonwelded ash flows, and a basalt flow of Tertiary-Quaternary age.

A series of fault scarps in alluvium are present along the eastern edge of the batholith where the Death Valley-Furnace Creek Fault Zone has been projected. The Paleozoic and Precambrian rocks have been displaced by thrust faults.

Hydrologic setting: The batholith is in the Fish Lake Valley ground-water system and drainage basin. The nearest discharge is 19 km east and the water is used in the valley for domestic and irrigation purposes.

Aeromagnetic expression: The batholithic massif has a highly complex magnetic signature, although almost all well-defined gradients have northwest trends. Much of the granitic rock terrane is characterized by high-amplitude anomalies, although the entire region has only moderate magnetic relief. Negative anomalies may represent polarization lows at the northeastern margins of the plutonic rock exposures.

Comments: The batholith lies along the California-Nevada border, within the Nevada seismic zone. Fault scarps, present in alluvium along the eastern edge of the batholith, probably coincide with the Death Valley-Furnace Creek Fault Zone.