

PRELIMINARY GEOLOGIC MAP OF A PART OF THE STILLWATER RANGE, CHURCHILL COUNTY, NEVADA

By Ben M. Page

INTRODUCTION

That part of the Stillwater Range which lies in Churchill County is largely composed of Upper Triassic strata of a remarkable succession of near-foliated volcanic and igneous rocks. It contains important fossiliferous beds, one of which may have resulted from glacial invasion. There are many later normal faults, and recent movements on some of them have caused earthquakes.

Background information available concerning the adjacent Mount Taber quadrangle (Walker and Roberts, 1931), and the Buffalo Mountain 15' quadrangle (Wallace and others, 1957), both quadrangles lie north of the area of this report. The geology of the Sand Springs Range to the south is described in a report for the American Energy Commission by the University of Nevada (1962).

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ROCK UNITS

SEDMIMENTARY ROCKS OF PALEOZOIC OR MESOZOIC AGE
Quartzites (qz) map of unknown stratigraphic position are located and locally associated with igneous rocks in the Stillwater Range. This is a free siliceous quartzite and local interstitial calcite. It is free of siliceous intercalations, and is several hundred feet thick. It resembles the quartzite of Cottonwood Canyon (see below), but differs in being slightly coarser, less uniform in grain size, and in containing more strongly rounded grains.

TRASSIC ROCKS

Metasedimentary rocks (ms)
Metasedimentary rocks affixed to U. S. Highway 50 east of Sand Springs may represent more than one system. Included are black chertaceous and chlorite-bearing phyllitic granitic schists, metaconglomerates, calcareous sandstones, shales, and shaly siliceous rocks. These rocks were collected in a single locality (2.5 miles west-northwest of the Summit King mine) and were identified as Argosites sp. and Alacranites (?) by S. W. Muller (oral communication, 1944), who suggests a probable Late Triassic age. The rock types of the vicinity conform generally with the Upper Triassic strata to the north, implying local differences or tectonic transport.

Upper Triassic slate and phyllite (st)
Slate derived from marine muds is the most prevalent rock in the central part of the mapped area. Most is gray-black, weathering to light gray, greenish gray, or light tan. The slaty cleavage is approximately parallel with the bedding except in places where it is cut by faults with the axial planes. Recrystallization is generally only incipient, but in the vicinity of granitic bodies the rock contains chlorite porphyroblasts. It is 2 to 3 inches thick. In a few places phyllite prevails over slate.

Parts of the slate succession are interrupted at intervals by gray-washed limestone beds 1 to 60 inches thick (generally argillaceous). Limestones occur in prominent units 1 to 50 feet thick. Many of the carbonate rocks are calcareous, and some of the limestone contain small fossiliferous shells. In the vicinity of granitic bodies the rocks contain stibnite porphyroblasts. It is 2 to 3 inches thick. In a few places phyllite prevails over slate.

Basalt and basaltic andesite (ba)
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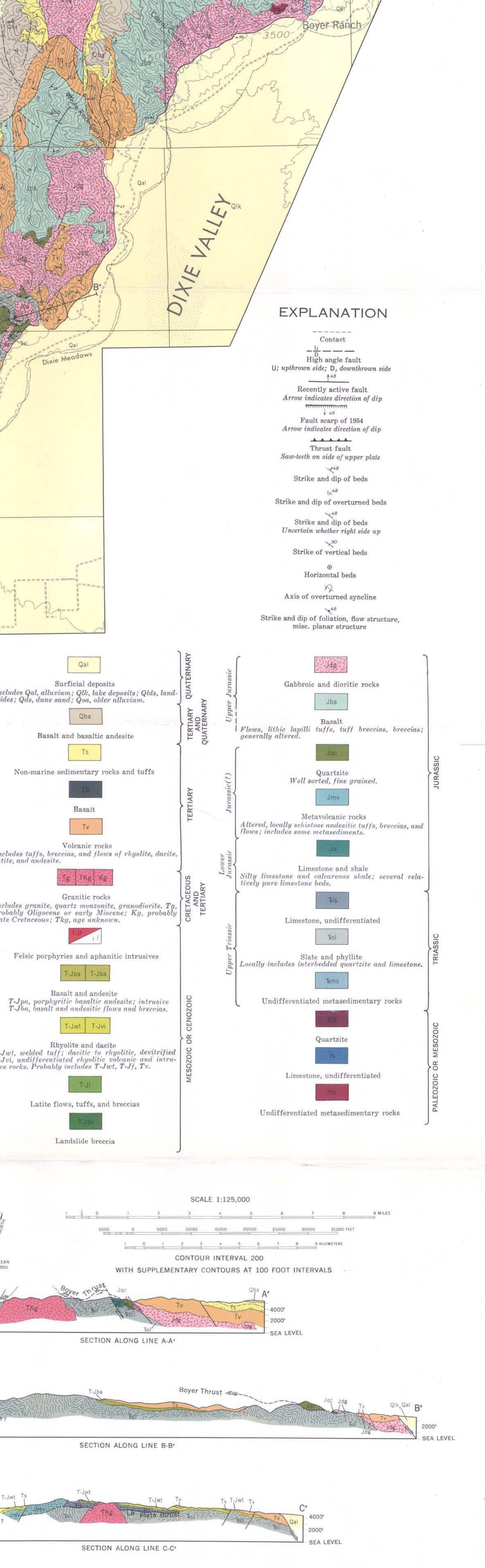
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EXPLANATION
Contact
High angle fault
Up: upthrust side; D, downthrust side
Recently active fault
Arrow indicates direction of dip
Fault scarp of 1864
Arrow indicates direction of dip
Thrust fault
Sawtooth on side of upper plate
Strike and dip of beds
Strike and dip of overturned beds
Strike and dip of beds
Uncertain whether right side up
Strike of vertical beds
Horizontal beds
Axis of overturned anticline
Strike and dip of foliation, flow structure, or other planar structure