



- EXPLANATION**
- Plutonic and metamorphic rocks and surficial deposits, undifferentiated (See legend on back cover)
- Plutonic rocks (Textary and Metamorphic—See Table for descriptions of individually numbered plutons)
- 4M1 Sedimentary, volcanic, and metamorphic rocks, undifferentiated (See back cover)
- INTRODUCTION**
- Plutonic rocks, mostly granite and granodiorite, are widely distributed in the Tonopah 1° by 2° quadrangle, Nevada. These rocks were systematically studied as part of the Tonopah Orogen project, which included field mapping, petrographic and whole-rock geochemical studies of both fresh and altered plutonic rocks and altered wallrocks, and K-Ar and Rb-Sr radiometric dating. Data collected during field studies were combined with previously published data to produce a 1:250,000-scale map of the Tonopah 1° by 2° quadrangle showing the distribution of individual plutons and an accompanying table summarizing characteristics of each. This map and accompanying text are intended to provide a general overview of the distribution and characteristics of plutonic rocks in the Tonopah 1° by 2° quadrangle.
- The main areas mapped as part of this study, along with associated data, are listed in the following table. The table includes the name of the pluton, its location, the age of the pluton (either a radiometric age or an age inferred from field relations), and the name of the geologist who mapped the pluton. The table also includes a brief description of the pluton's characteristics, such as its composition, texture, and mineralogy.
- DESCRIPTION**
- Plutonic rocks in the Tonopah quadrangle can be divided into seven groups based on their composition, texture, and mineralogy. These groups are: (1) Triassic to Early Jurassic porphyritic granitoids and quartz monzonites; (2) Late Cretaceous to Paleogene granitoids and quartz monzonites; (3) Late Cretaceous to Paleogene quartz monzonites and quartz diorites; (4) Late Cretaceous to Paleogene quartz monzonites and quartz diorites; (5) Late Cretaceous to Paleogene quartz monzonites and quartz diorites; (6) Late Cretaceous to Paleogene quartz monzonites and quartz diorites; (7) Late Cretaceous to Paleogene quartz monzonites and quartz diorites.
- The oldest plutons, group 1, are small bodies of Triassic to Early Jurassic age. These plutons are composed of porphyritic granitoids and quartz monzonites. They are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their porphyritic texture and the presence of quartz monzonites and quartz diorites.
- Group 2 plutons are characterized by bodies of Late Cretaceous to Paleogene age. These plutons are composed of quartz monzonites and quartz diorites. They are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.
- Group 3 plutons are Late Cretaceous to Paleogene quartz monzonites and quartz diorites. These plutons are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.
- Group 4 plutons are Late Cretaceous to Paleogene quartz monzonites and quartz diorites. These plutons are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.
- Group 5 plutons are Late Cretaceous to Paleogene quartz monzonites and quartz diorites. These plutons are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.
- Group 6 plutons are Late Cretaceous to Paleogene quartz monzonites and quartz diorites. These plutons are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.
- Group 7 plutons are Late Cretaceous to Paleogene quartz monzonites and quartz diorites. These plutons are widely distributed in the Tonopah 1° by 2° quadrangle, with the largest bodies located in the Tonopah Range and the Humboldt Range. These plutons are characterized by their quartz monzonitic and quartz dioritic composition and their porphyritic texture.

MAP SHOWING THE DISTRIBUTION AND CHARACTERISTICS OF PLUTONIC ROCKS IN THE TONOPAH 1° BY 2° QUADRANGLE, CENTRAL NEVADA

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