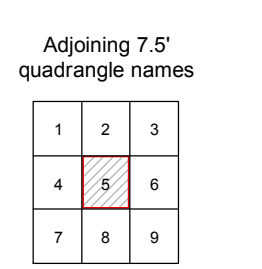


- ALLUVIAL DEPOSITS OF CARSON RIVER**
- Meander-belt deposits of East Fork Carson River**
- Qmea** Recently active meander-belt deposits (late Holocene to Historic)
 - Qme1a** Young East Carson meander-belt deposits (late Holocene)
 - Qme1b** (late Holocene)
 - Qme1c** (late Holocene)
 - Qme1d** (middle to late Holocene)
 - Qme2** Older East Carson meander-belt deposits (early Holocene to latest Pleistocene)
- Meander-belt deposits of West Fork Carson River**
- Qmw1** Young West Carson meander-belt deposits (late Holocene)
 - Qmw1a** (late Holocene)
 - Qmw1b** (late Holocene)
 - Qmw1c** (early to late Holocene)
 - Qmw2** Older West Carson meander-belt deposits (early Holocene to latest Pleistocene)
- Floodplain deposits of East and West Forks Carson River**
- Qf1** Young floodplain deposits
 - Qf1a** (late Holocene)
 - Qf1b** (late Holocene)
 - Qf2** Older floodplain deposits (latest Pleistocene)
- Undivided deposits of East and West Forks Carson River**
- Qicr** Intermediate age Carson River deposits (late Pleistocene)
- ALLUVIAL FAN DEPOSITS**
- Qa** Active alluvium (modern)
 - Qay** Young alluvium (Holocene to latest Pleistocene)
 - Qay1** (middle to late Holocene)
 - Qay2** (late Pleistocene to early Holocene)
 - Qai** Intermediate age alluvium (late Pleistocene)
 - Qao** Older alluvium (middle to late Pleistocene)
- Other Alluvial deposits**
- Qb** Basin deposits (Holocene)
 - Qs** Spring deposits (Holocene to late Pleistocene)
- Other Geological Units**
- Ta** Hornblende andesite flows (Tertiary)
 - Ka** Aplites (Cretaceous)
 - Kbm** Bryan Meadow Granodiorite (Upper Cretaceous)
 - Kkg** Granodiorite of Kingsbury Grade (Upper Cretaceous)
 - Kdp** Granodiorite of Daggett Pass (Cretaceous)
 - Kfp** Free Peak Granodiorite (Upper Cretaceous); **Kfpp**, porphyritic variant
 - Kjc** Quartz diorite of Jobs Canyon (Cretaceous)
 - Kqdp** Quartz monzodiorite north of Daggett Pass (Cretaceous?)
 - Kqd** Quartz diorite and diorite (Cretaceous?)
 - Mzmv** Metavolcanic rocks (Mesozoic)

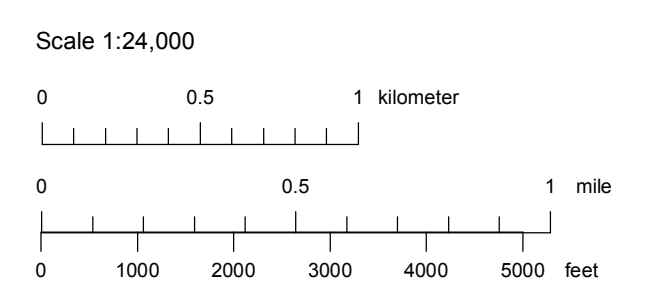
See accompanying text for full unit descriptions, references, and tables for this map.

Symbology (per FGDC-STD-013-2006)

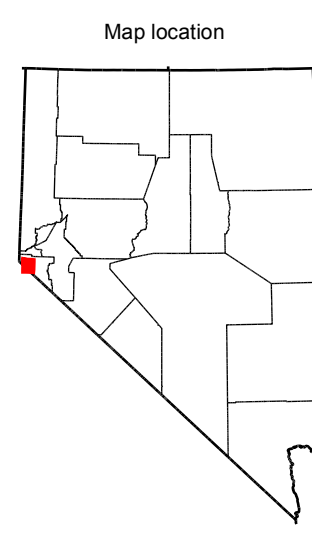
- Contact** Solid where certain and location accurate, long-dashed where approximate; queried if identity or existence uncertain.
- Gradational contact** Long-interval hachures where approximate.
- Fault** Solid where certain and location accurate, long-dashed where approximate, dotted where concealed. Bar and ball on downthrown side, locally showing dip and lineation bearing.
- Strike and dip of bedding**
 - Inclined
- Strike and dip metamorphic foliation**
 - Inclined
 - Vertical
- Strike and dip of joints**
 - Inclined
 - Vertical



- 1 Glenbrook
- 2 Genoa
- 3 McMahan Hill
- 4 South Lake Tahoe
- 5 Minden
- 6 Gardnerville
- 7 Free Peak
- 8 Woodfords
- 9 Carters Station



Projection: Universal Transverse Mercator, Zone 11, North American Datum 1927 (m)
 Base map: U.S. Geological Survey Minden 7.5' Quadrangle (1968, photorevised 1982)



PRELIMINARY GEOLOGIC MAP OF THE MINDEN QUADRANGLE, DOUGLAS COUNTY, NEVADA AND ALPINE COUNTY, CALIFORNIA
 Alan R. Ramelli, James C. Yount, David A. John, and Larry J. Garside
 2009

Nevada Bureau of Mines and Geology
 Mackay School of Earth Sciences and Engineering
 College of Science
 University of Nevada, Reno

Field work done in 1976-1980, 1993-1994, and 2002-2003
 Supported by the U.S. Geological Survey COGEMAP Program (Agreement Nos. 14-08-001-A0654, -A0801, -A0882, and 1888070-03) and STATEMAP Program (Agreement Nos. 1434-93-A-1161, and 01-HQ-AG-0037)

DRAFT
 Preliminary geologic map
 Has not undergone office or field review
 Will be revised before publication

Edited by Dick Meeuwig
 Compilation by Robert Chaney
 Cartography and map production in ESRI ArcGIS v9.2 (ArcGeographic v1.3) by Jennifer Maudlin
 Second Edition, March 2009
 Printed by Nevada Bureau of Mines and Geology

This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic orders and a plot 7' dimensions on the same plotter, and paper map change size; therefore, scale and proportions may not be exact on copies of this map.

For sale by:
 Nevada Bureau of Mines and Geology
 University of Nevada, Reno / 178
 Reno, Nevada 89557-0178
 ph (775) 784-6901, ext. 2
 www.nbmg.unr.edu; nbmg@unr.edu