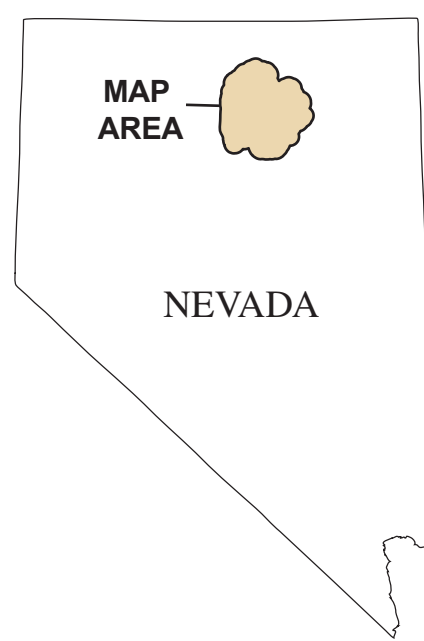


Base from U.S. Geological Survey digital data, 1:100,000, 1979-1988.
Universal Transverse Mercator projection, Zone 11.
North American Datum of 1927

Geology from Stewart and Carlson, 1976
Modified by Plume, 2004

EXPLANATION



- Younger basin-fill deposits (Tertiary and Quaternary)**—Unconsolidated and poorly to well sorted deposits of clay, silt, sand, gravel, and boulders of alluvial fans, basin lowlands, and stream flood plains. Form shallow basin-fill aquifers
- Volcanic rocks (Tertiary and Quaternary)**—Basalt and andesite flows, rhyolite flows, flow domes, and shallow intrusives, and silicic tuffs. Interbedded with and underlie older basin-fill deposits
- Older basin-fill deposits (Tertiary)**—Semi-consolidated, poorly sorted, and tuffaceous deposits of clay, silt, sand, gravel, and boulders. Form shallow basin-fill aquifers
- Granitic rocks (Jurassic and Tertiary)**—Intrusive bodies of granodiorite and quartz monzonite. Mostly impede movement of ground water
- Siltstones (Devonian to Ordovician)**—Siltstone, shale, sandstone, quartzite, conglomerate, chert, and marine volcanic rocks. Mostly impede movement of ground water
- Carbonate rocks**—Limestone, dolomite, and lesser amounts of shale, siltstone, sandstone, and quartzite of Cambrian to Devonian age in the Tuscarora Mountains and Independence Range and Devonian to Permian age in the Adobe Range. Form bedrock aquifers that are being dewatered at Betze and Gold Quarry Mines
- Open-pit gold mine**—Letters refer to Betze (B), Carlin (C), Genesis (G), and Gold Quarry (Q) Mines
- Fault**—Dotted where concealed. Name indicates fault discussed in text. May either impede movement of ground water or function as conduit for flow depending on rock types on either side
- Hydrographic-area boundary**
- Lines of equal water-level change**—Dashed where inferred; interval variable
 - Water-level rise in basin-fill deposits of Boulder Flat and water-level decline in basin-fill deposits of Clovers Area, 1993-2003
 - Water-level rise in volcanic rocks of Boulder Flat, 1993-2003
 - Water-level decline in carbonate rocks near Betze, 1991-2003, and Gold Quarry Mines, 1992-2003
- Well**—Designation refers to well discussed in text
 - Measured by mining company**—Completed in basin-fill deposits
 - Measured by mining company**—Completed in volcanic rocks
 - Measured by mining company**—Completed in carbonate rocks
 - Measured by USGS or Nevada Division of Water Resources**—Mostly completed in basin-fill deposits
- Spring in northern Boulder Flat**—Did not exist prior to infiltration at TS Ranch Reservoir

HYDROGEOLOGIC MAP, CARLIN TREND AREA, NORTH-CENTRAL NEVADA

By
Russell W. Plume