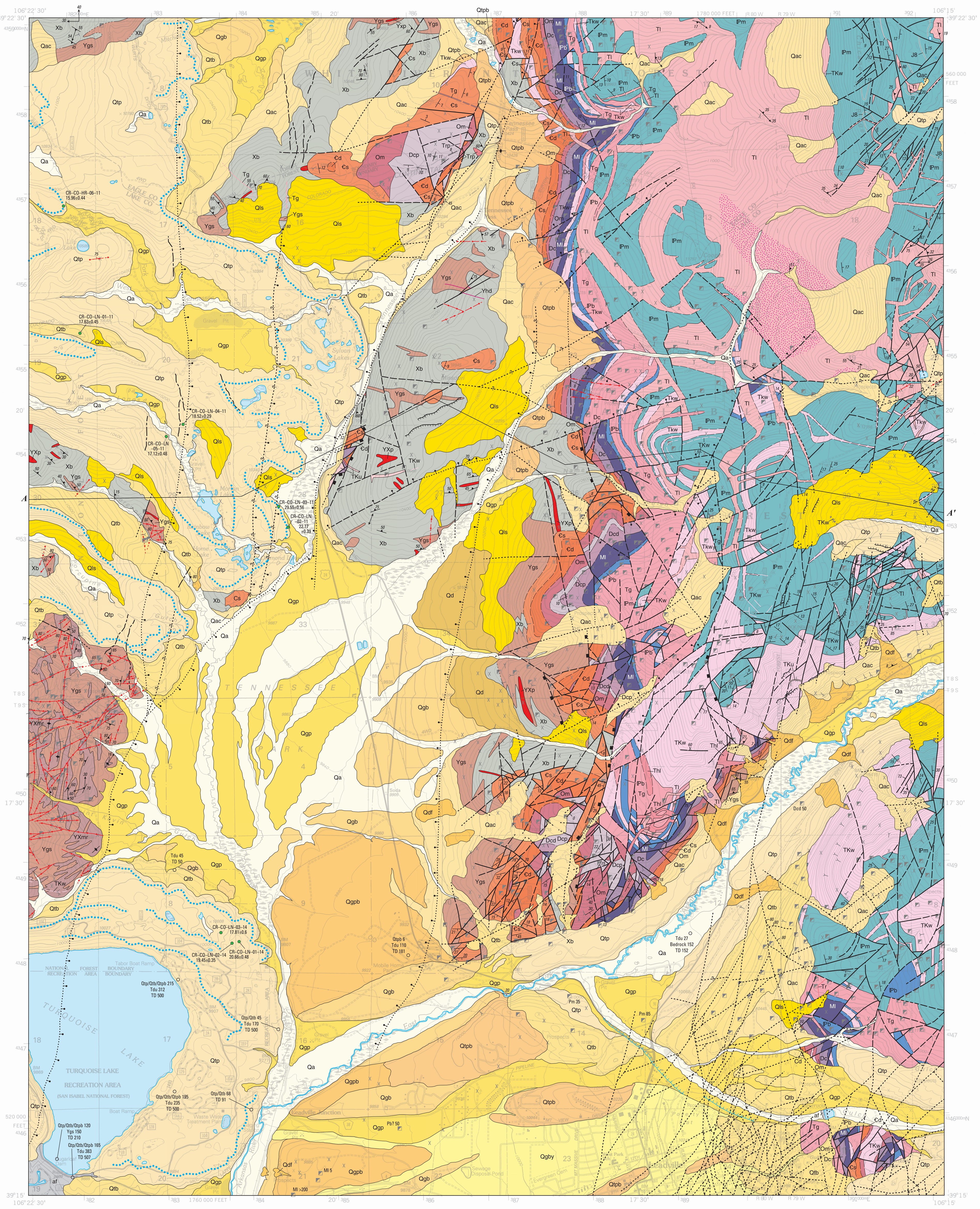
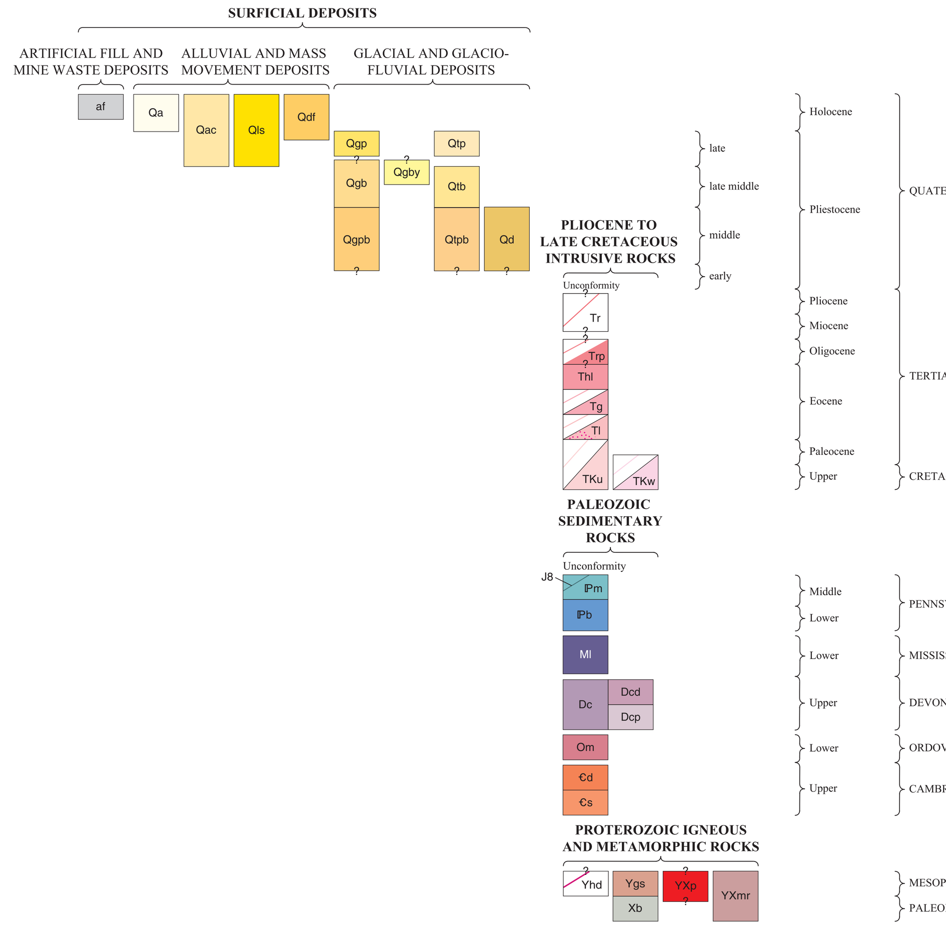
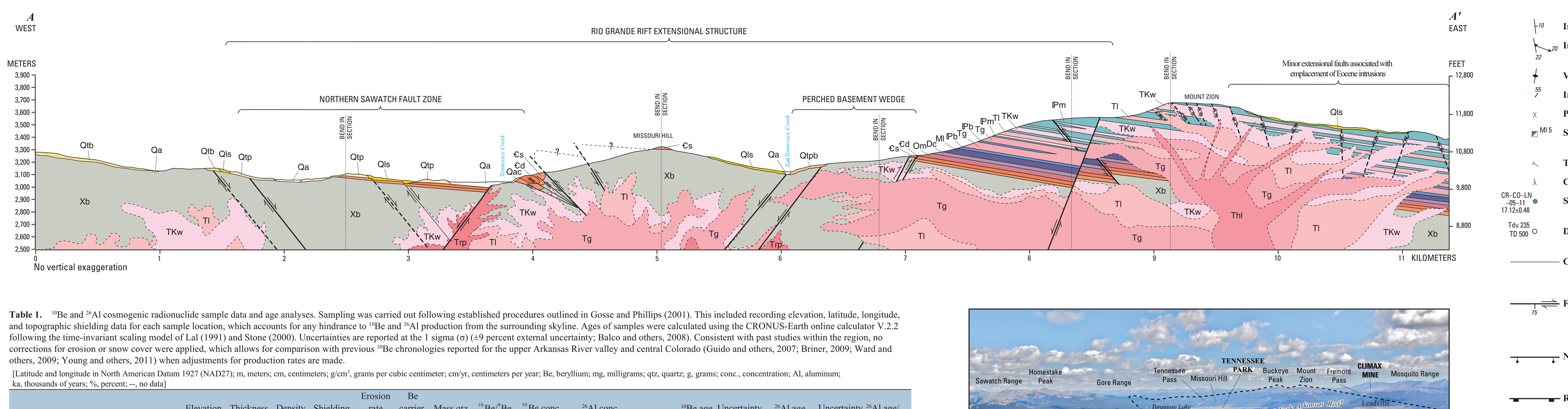


CORRELATION OF MAP UNITS





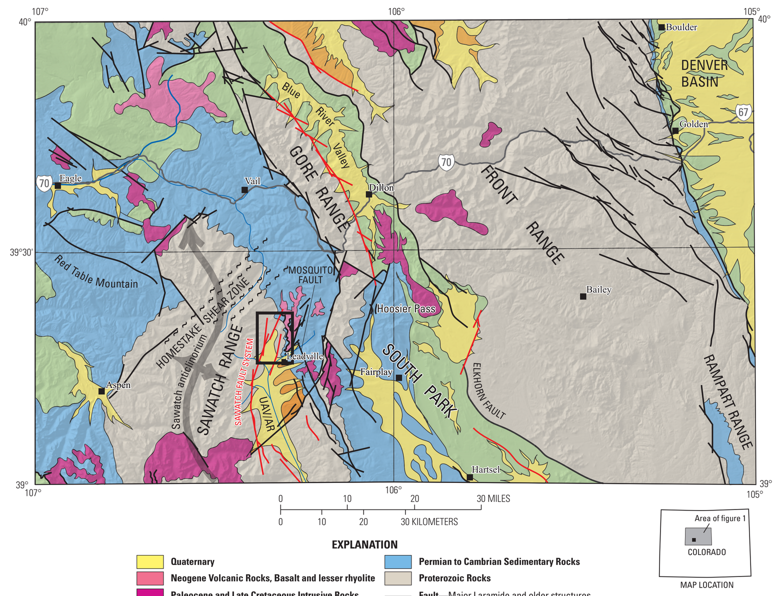
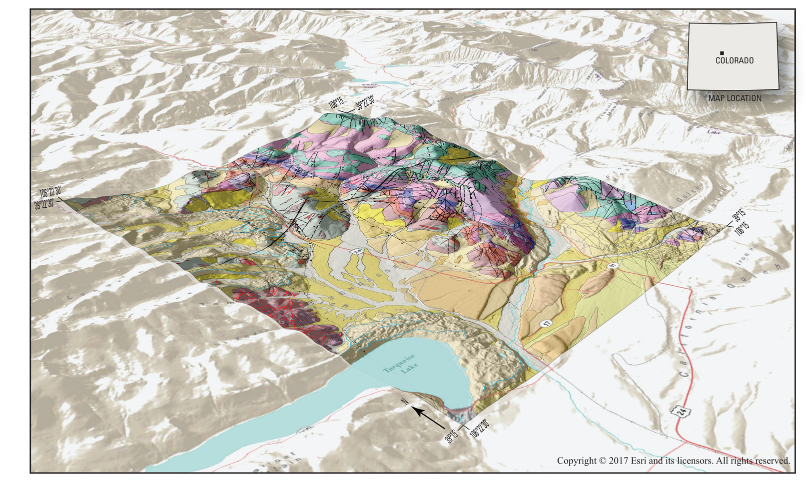
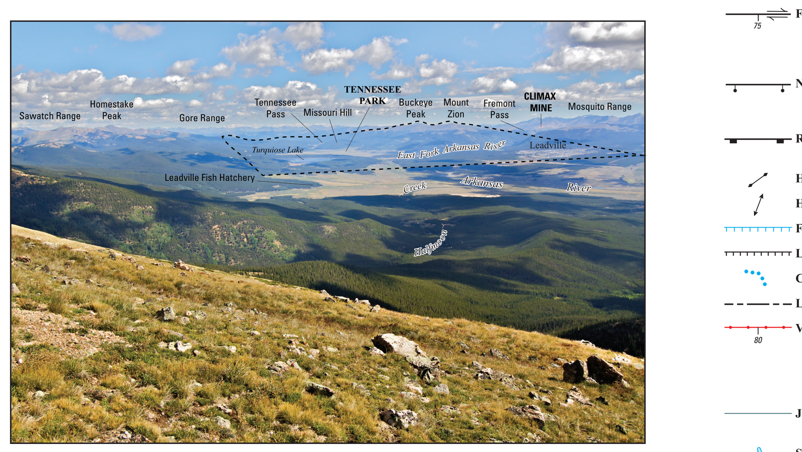


Figure 1. Geologic setting of the Leadville North, Colo., 7.5' quadrangle. Black box indicates location of mapped quadrangle. Major Laramide and older structures shown by heavy black lines. Faults having definitive Pleistocene activity shown by heavy red lines. [UAV, Upper Arkansas Valley; AR, Arkansas River]



Base map from Esri World Terrain Base, 2017
Geographic projection, decimal degrees
World Geodetic System of 1984

Oblique, aerial view to the northeast showing the Leadville North, Colo., 7.5' quadrangle geologic map overlaid on a shaded-relief base map.



View to the northeast showing Leadville, Colo., from the flank of Mount Elbert and geographic features relative to the Leadville North, Colo., 7.5' quadrangle. Approximate location of the geologic map is shown by the dashed footprint.

DESCRIPTION OF MAP UNITS

Lincoln Porphyry (Eocene)—Exposed as a main sill body on Cooper Hill and the western flank of Buckeye Peak and Chicago Ridge in northeastern part of quadrangle. Gray to light pinkish-gray porphyritic monzogranite with phenocrysts of mainly orthoclase and quartz <1 cm long and rare biotite and hornblende (Behre, 1953). Unit is crosscut by the Gray porphyry group (Tg), but the age is problematic. Earlier biotite K-Ar ages of 62 Ma (Pearson and others, 1962) and 64.6 Ma (McCalpin and others, 2012) are in conflict with a more recent biotite K-Ar age of 44.1±1.6 Ma (Marvin and others, 1989) and fission-track dates of 36.7±3.9 Ma and 48.6±6.6 Ma on apatite and 40.1±3.9 Ma ... Lincoln Porphyry (Tl), but crosscutting relationships east of Tennessee Pass demonstrate that the Lincoln Porphyry is older. Locally contains inclusions of White porphyry group (TKw) and Lincoln Porphyry (Tl), which further complicates the interpretation of structural and intrusive relationships. Similar approximately 40 Ma biotite K-Ar and zircon-sphene-apatite fission-track ages have been documented to the east, at the northern end of South Park (Bryant and Naeser, 1980; Bryant and others, 1981; Ruleman and others, 2011)

Monzogranite, granodiorite, biotite gneiss and schist, and pegmatite, undivided (Mesoproterozoic and Paleoproterozoic)—Medium-gray to black, grayish-pink, light-pinkish-brown to light-brown, fine- to coarse-grained biotite ...

Mesoproterozoic St. Kevin Granite (Ygs)-associated rocks, especially the finer-grained, marginal phases. Crosscutting relationships indicate that pegmatite and aplite are associated with late-stage intrusive processes and occur within both the Paleoproterozoic Routt Plutonic Suite (about 1,700 Ma) and Mesoproterozoic Berthoud Plutonic Suite (about 1,400 Ma) of Tweto (1987). Pegmatite and aplite rocks mapped within the quadrangle appear to be undeformed ...

EXPLANATION

... chiefly pyritic quartz-sulfide in composition and are silver bearing. Veins in Buckeye Peak-Mount Zion region are in carbonate rocks and are siliceous and gold-bearing

Jack 8 (J8)—Dolomite bed, 1–2 meters thick, within the Minturn Formation (₽m)

Shoreline—Showing open water

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Geologic Map of the Leadville North 7.5' Quadrangle, Eagle and Lake Counties, Colorado

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