

# **Geologic Map of the C-N Lake Quadrangle, Catron County, New Mexico.**

By

**Charles A. Ferguson and Robert G. Osburn**

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*Open-file Digital Geologic Map OF-GM 218***

**Scale 1:24,000**

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**New Mexico Bureau of Geology and Mineral Resources  
801 Leroy Place, Socorro, New Mexico, 87801-4796**

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**Geologic mapping by C. A. Ferguson and G. R. Osburn, 2011**  
**C-N Lake beach ridges from unpublished mapping of R. Weber, 1978**  
**San Augustin Lake beach ridges, mapped by Ferguson and Osburn, 2011**  
**Charles A. Ferguson 119 North Fork Road, Centennial, WY 82055-0070**  
**wamego\_kid@hotmail.com**  
**G. Robert Osburn Earth and Planetary Science Department, Washington**  
**University, St. Louis, MO 63130**

**H      Man-made deposits (Holocene)** – Earthen dams for tanks along active gulleys or valleys.

**Qy      Active alluvium (Holocene)** - Active and recently active alluvium, typically incised <1m.

**Qe      Eolian deposits (Quaternary)** – Deposits consist of active and vegetated dunes (fine to medium-grained sand) and silt (loess).

**Qc      Colluvium and other slope deposits (Quaternary)**

**Qpy    Pluvial and lacustrine deposits (Quaternary)** – Deposits are locally mantled with eolian sand.

**Qbm    Baymouth bar deposits (Quaternary)** – Sand and gravel composed mostly of sub-angular to sub-rounded pebbles and cobbles with sparse well-rounded pebbles.

**Qf1    Alluvial fan and piedmont deposits (Quaternary)** - Deposits are typically incised <5m. Clasts are derived from a local source.

**Qfo    Older alluvial fan and piedmont deposits (Quaternary)** – Deposits typically incised >5m. Clasts are derived from a local source.

**QT      Older alluvium and piedmont deposits (Miocene – Quaternary)** - containing clasts of rhyolitic ignimbrite, felsic, intermediate, and mafic lava, the mafic lava probably derived from the Luera Mts range crest ~5km to the south. Thickness: 0-100m.

**Tvc    Volcaniclastic conglomerate (Oligocene – Miocene)** – Conglomerate containing boulders and cobbles of rhyolitic and dacitic lava, felsic ignimbrite, and mafic lava. Thickness: 0-50m.

**Tsc    South Canyon Tuff (Oligocene)** – Rhyolitic ash-flow tuff containing 4-30% phenocrysts of plagioclase, sanidine, quartz, and biotite. Lithic-lapilli are generally <5%, and pumice lapilli 5-25%. Thickness: 0 - 50m.

**Tb      Basalt (Oligocene)** – Vesicular basalt containing < 10% phenocrysts of plagioclase, olivine, and pyroxene.

**Tvp Vicks Peak Tuff (Oligocene)** – Densely welded rhyolitic ash-flow tuff containing 1-15% phenocrysts, chiefly sanidine up to 4mm, lesser plagioclase up to 2mm, and sparse pyroxene, hornblende, and biotite <2mm. The tuff contains 2-25% strongly flattened pumice lapilli up to 1m long, and sparse <10cm lithic lapilli. The tuff is typically light gray and the pumice lapilli are commonly recessive on weathered surfaces. Thickness: up to 90m.

**Tj La Jencia Tuff (Oligocene)** – Densely welded rhyolitic ash-flow tuff containing 2-10% phenocrysts of sanidine (1-4mm) and plagioclase (1-2mm), and minor biotite, pyroxene, and hornblende, and quartz. The tuff is generally light to dark gray and contains 5-15% strongly flattened pumice lapilli up to 1m long, and up to 5% lithic lapilli. Thickness: up to 120m.

**Tvo Older volcanoclastic conglomerate (Oligocene)** – Conglomerate principally containing boulder and cobbles of the dacitic lava (Td). Thickness: 0-30m.

**Tba Basaltic andesite lava (Oligocene)** – Phenocryst-poor ash-flow tuff containing < 5% mafic lava containing less than 5% <3mm plagioclase, pyroxene and/or hornblende. Unit is interbedded with the Hells Mesa, Blue Canyon, and Rock House Canyon tuffs.

**Thm Hells Mesa Tuff (Oligocene)** – Densely welded phenocryst-rich rhyolitic to trachytic ash-flow tuff containing 20-35% phenocrysts of plagioclase ( $\leq 3$ mm), sanidine ( $\leq 3$ mm), quartz ( $\leq 4$ mm), hornblende ( $\leq 2$ mm), and biotite ( $\leq 2$ mm). The tuff is reddish brown to orange in color and contains sparse lithic lapilli and generally <10% pumice lapilli <10cm long. Thickness: 0-25m.

**Tbc\* Blue Canyon Tuff (Oligocene)** – Moderately phenocryst-rich ash-flow tuff containing 10-20% 1-4mm plagioclase, and abundant 1-3mm biotite. Thickness: 0-50m.

**Trh\* Rock House Canyon Tuff (Oligocene)** – Phenocryst-poor mafic lava containing less than 5% < 3mm feldspar phenocrysts, and a trace of mafics. Thickness: 0-50m.

\*on cross-section only