

# Geologic Map of the Kellog Well 7.5-Minute Quadrangle, Catron and Socorro Counties, New Mexico

By  
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*Open-file Digital Geologic Map OF-GM 064***

**Scale 1:24,000**

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- af Man-made deposits (Holocene) – Earthen dams for tanks along active gulleys or valleys.
- Qbs Beach sand (Quaternary) – Fine- to medium-grained, moderately well-sorted sand in beach ridges.
- Qv Valley alluvium (Holocene) – Active alluvium in valleys, gulleys, and along active stream beds, generally incised <3m.
- Qt Terrace deposits (Quaternary) – Terrace deposits composed of alluvium incised more than 3m above nearby active alluvial deposits.
- Qca Colluvium and alluvium (Holocene – Quaternary)
- Qtc Talus and colluvium (Holocene - Quaternary)
- Qpl Lacustrine deposits (Quaternary) – Clay, silt, and fine-grained sandy playa deposits.
- Qpy Younger Piedmont deposits (Quaternary) – Sand and gravel deposited in alluvial fans.
- Qp Piedmont deposits (Quaternary) – Sand and gravel deposited in alluvial fans.
- QTsf Santa Fe Group (Pleistocene – Miocene) – Conglomerate and sandstone, typically volcanoclastic and moderately indurated. Thickness: 0-25m.
- Tts Turkey Springs Tuff (Oligocene) - Welded to non-welded rhyolite ash-flow tuff containing 2-20% (increasing upwards) phenocrysts of quartz, sanidine, plagioclase, and biotite. The tuff is typically light gray to pink and contains up to 20% pumice lapilli, and 5-10% lithic lapilli. Thickness: 0-10m.
- Tb Basaltic lava (Oligocene) – Mafic lava containing up to 10% 1-2mm pyroxene and/or olivine phenocrysts and lesser plagioclase phenocrysts up to 3mm. Thickness: 0-160m.
- Tss Volcanoclastic sandstone (Oligocene) – Sandstone and minor conglomerate. Thickness: 0-30m.
- Tsc2 Lithic-rich South Canyon Tuff (Oligocene) – Rhyolitic ash-flow tuff containing 5-15% phenocrysts of plagioclase, sanidine, quartz, and biotite and  $\geq$  15% lithic lapilli. Thickness: 0-50m.
- Tsc South Canyon Tuff (Oligocene) – Rhyolitic ash-flow tuff containing 4-10% phenocrysts of plagioclase, sanidine, quartz, and biotite. Lithic-lapilli are generally <5%, and pumice lapilli 5-25%. Thickness: 0 - >300m.

Tba Basaltic andesite lava (Oligocene) – Mafic lava containing up to 10% 1-3mm plagioclase phenocrysts and sparse pyroxene and/or olivine.

Tvp2 Upper Vicks Peak Tuff (Oligocene) – Densely welded rhyolitic ash-flow tuff containing 10-15% phenocrysts, chiefly sanidine up to 4mm, lesser plagioclase up to 2mm, and sparse pyroxene, hornblende, and biotite <2mm. The tuff contains 10-25% strongly flattened pumice lapilli up to 1m long, and sparse <10cm lithic lapilli. The upper Vicks Peak Tuff grades down into the less welded lower member. Thickness: up to 35m.

Tvp1 Lower Vicks Peak (Oligocene) – Poorly welded rhyolitic ash-flow tuff containing 1-10% phenocrysts, chiefly sanidine up to 4mm, lesser plagioclase up to 2mm, and sparse pyroxene, hornblende, and biotite <2mm. Thickness: up to 65m.

Tvp Vicks Peak Tuff, undifferentiated (Oligocene) – Poorly to 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.

Tdr Rhyolite of Durfee Canyon (Oligocene) – Moderately phenocryst-poor (2-7%) rhyolite lava containing feldspar (presumably mostly sanidine) up to 5mm, biotite up to 2mm, and sparse quartz up to 2mm. Thickness: 0 - >200m.

Tdrt Rhyolite tuff of Durfee Canyon (Oligocene) – Mostly nonwelded, rhyolitic ash-flow tuff, and ash-fall tuff, locally containing up to 30% lithic lapilli. The unit may also include minor volcaniclastic sandstone and conglomerate in some areas. Thickness: 0-100m.

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.

Thm Hells Mesa Tuff (Oligocene) – Densely welded phenocryst-rich rhyolitic to trachytic ash-flow tuff containing 20-45% 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: at least 25m.