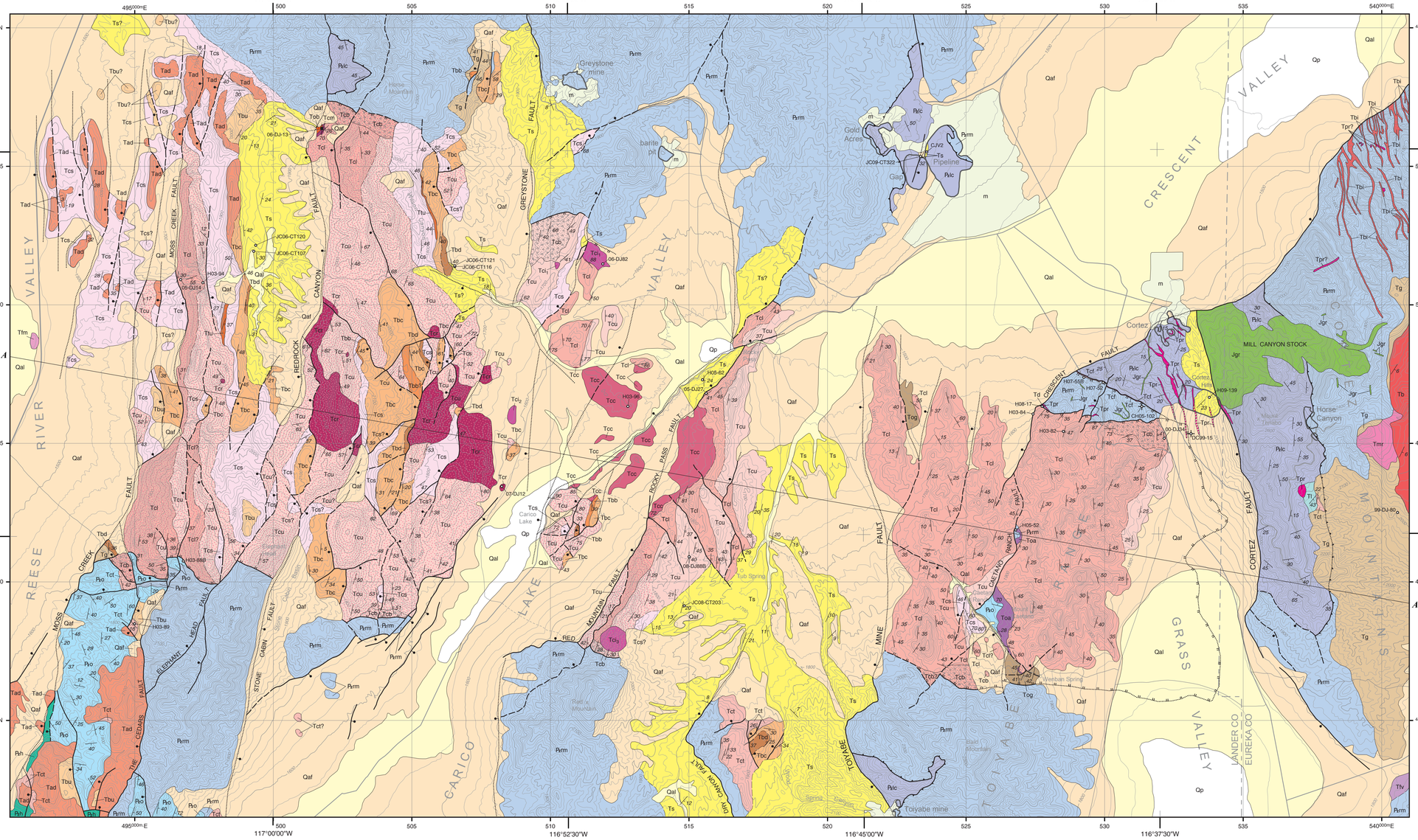
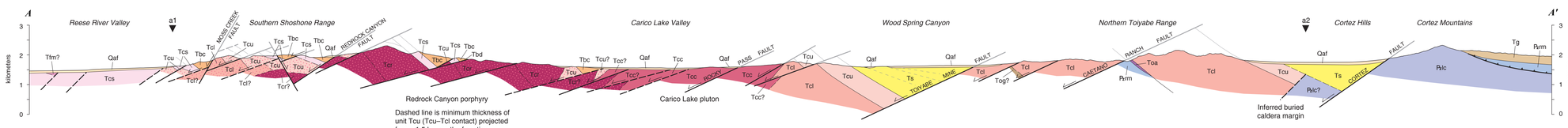
Prepared with support from the Geological Society of Nevada Foundation and partial support from the U.S. Geological Survey STATEMAP component of the National Cooperative Geologic Mapping Program





1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

Adjoining 7.5' quadrangle names

1 Redrock Spring
2 Goat Peak
3 Ferris Creek
4 Tenabo
5 East of Tenabo
6 Moss Creek
7 Carico Lake North
8 Rocky Pass
9 Cortez Canyon
10 Cortez
11 The Cedars
12 Carico Lake South
13 Wood Spring Canyon
14 Wenban Spring
15 Dugout Spring

Map location

Scale 1:75,000
CONTOUR INTERVAL 25 m

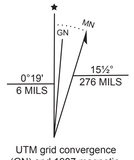
0 1 2 3 kilometer

0 1 2 3 mile

0 5000 10,000 15,000 feet

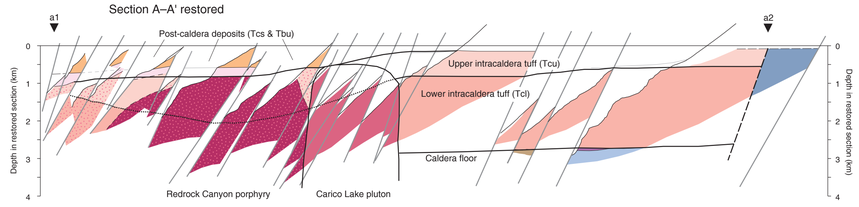
Projection: Universal Transverse Mercator, Zone 11, North American Datum 1983 (m)

Contours derived from 30 m National Elevation Dataset. Topographic and cultural features from U.S. Geological Survey Fish Creek Mountains and Crescent Valley 30' x 60' quadrangle maps.



UTM grid convergence (GN) and 1987 magnetic declination (MN) at center of map. Diagram is approximate.

Section A–A' restored



SURFICIAL DEPOSITS

- m — Mine dumps, ponds, and leach pads
- Qp — Playa deposits (Quaternary)
- Qal — Alluvium (Quaternary)
- Qaf — Alluvial-fan deposits (Quaternary)

MIOCENE SEDIMENTARY AND VOLCANIC ROCKS

- Ts — Sedimentary rocks (Miocene)
- Tmr — Rhyolite dome (Miocene)
- Tb — Basaltic andesite lava flows (Miocene)
- Tbi — Basaltic andesite dikes (Miocene)

EOCENE TO OLIGOCENE ROCKS POSTDATING THE CAETANO CALDERA

- Tfm — Fish Creek Mountains Tuff (Oligocene)
- Tbu — Bates Mountain Tuff, undivided (Oligocene)
- Tbd — D unit of Bates Mountain Tuff (Oligocene)
- Tbc — C unit of Bates Mountain Tuff (Oligocene)
- Tbb — B unit of Bates Mountain Tuff (Oligocene)
- Ttu — Plagioclase-biotite tuff (Oligocene)
- Tad — Andesite and dacite lava flows (Oligocene)
- Tcs — Post-caldera sedimentary rocks (Oligocene)
- Tg — Boulder- to pebble-conglomerate and sandstone (Miocene(?) to Eocene)

CAETANO CALDERA

- Hydrothermally altered rocks

Large Intrusions

- Tcc — Carico Lake pluton (Eocene)
- Tcr — Redrock Canyon porphyry (Eocene)

Small Intrusions

- Tcl_1 — Porphyritic ring-fracture intrusion (Eocene)
- Tcl_2 — Fine-grained granite porphyry (Eocene)
- Tcl_3 — Flow-banded rhyolite ring-fracture intrusion (Eocene)

Extrusive Rocks

- Tct — Caetano Tuff, outflow sheet (Eocene)
- Tcb — Caetano Tuff, meso- and megabreccia (Eocene)
- Tcu — Caetano Tuff, upper intracaldera unit (Eocene)
- Tcl — Caetano Tuff, lower intracaldera unit (Eocene)

Feeder Dike

- Tcf — Caetano Tuff, composite feeder dike (Eocene)

CENOZOIC ROCKS PREDATING THE CAETANO CALDERA

- Tcm — Tuff of Cove Mine (Eocene)
- Tpr — Porphyritic rhyolite dikes, sills, breccia dikes, domes, and minor tuff (Eocene)
- Porphyritic rhyolite, concealed (mapped from drill-hole data)
- Toa — Andesite lava (Eocene)
- Tlv — Volcanic rocks of Fye Canyon (Eocene)
- Tob — Basaltic lava flows (Eocene)
- Td — Porphyritic dacite (Eocene)
- Tl — Limestone (Eocene)
- Tog — Conglomerate and sandstone (Eocene)

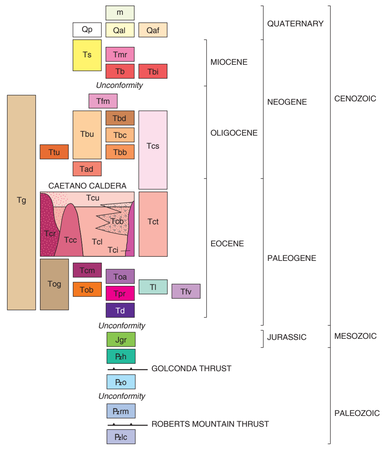
MESOZOIC INTRUSIVE ROCKS

- Jgr — Mill Canyon stock and dikes (Jurassic)

PALEOZOIC ROCKS

- Pzh — Havallah sequence (Golconda allochthon) (Permian to Devonian)
- Pzo — Antler overlap assemblage (Permian to Pennsylvanian)
- Pzrm — Roberts Mountains allochthon (Devonian to Ordovician)
- Pzlc — Limestone, dolomite, and quartzite (Devonian to Cambrian)

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



Symbology

Contact Solid where observed in the field, dashed where interpreted from aerial photographs or satellite images, dotted where concealed.

Normal fault Solid where observed in the field, dashed where interpreted from aerial photographs or satellite images, dotted where concealed. Ball and bar on downthrown side.

Caldera margin Solid where observed in the field, dashed where interpreted from aerial photographs or satellite images, dotted where concealed. Tic marks on caldera interior.

Thrust fault Solid where observed in the field, dashed where interpreted from aerial photographs or satellite images, dotted where concealed. Teeth on hanging wall.

Strike and dip of bedding

Strike and dip of compaction foliation in ash-flow tuff

Geochronology sample locality

- Outcrop
- Drill hole

Outline of open-pit mine (ca. 2010)

Line of cross section

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

Field work done in 2003, 2005–2010
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PEER-REVIEWED MAP
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Field review by John Muntean (NBMG), Robert Leonardson (Barrick Cortez), Thomas Chapin (Barrick Cortez), and Kathryn Watts (University of Oregon)

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GEOLOGIC MAP OF THE CAETANO CALDERA, LANDER AND EUREKA COUNTIES, NEVADA

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2011