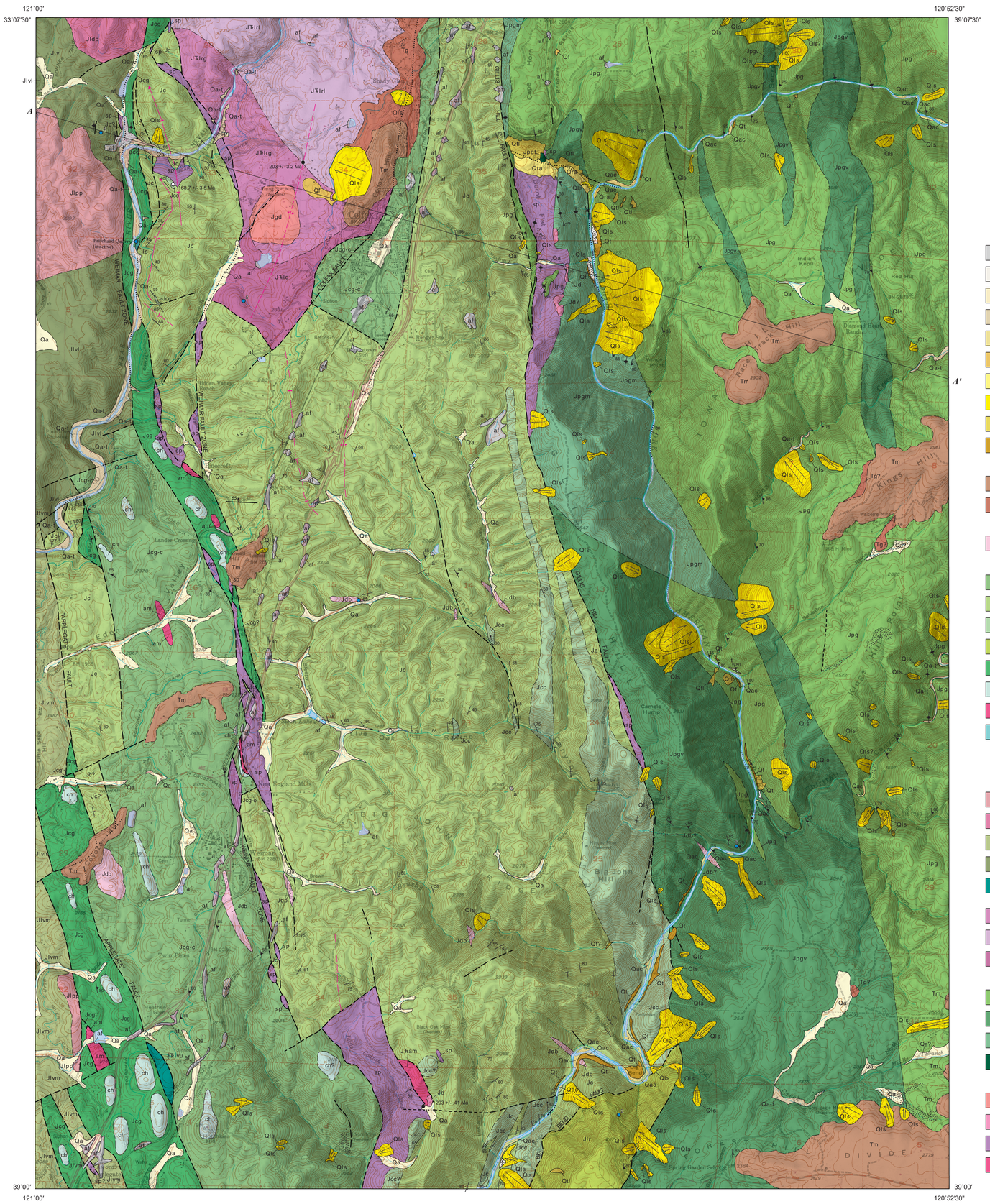
California geologic maps are available at https://www.conservation.ca.gov/cgs

PRELIMINARY GEOLOGIC MAP OF THE COLFAX 7.5′ QUADRANGLE, PLACER AND NEVADA COUNTIES, CALIFORNIA

VERSION 1.0

By
Peter J. Holland, Chris Henningfeld, Matt D. O'Neal, and Jeremy L. Altringer

2026



Coordinate System:
Universal Transverse Mercator, Zone 10N,
North American Datum 1927

Topographic base from U.S. Geological Survey
Colfax 7.5-minute Quadrangle, 1949 (photorevised 1973)
Shaded relief image derived from USGS lidar DEM, 2020 and 2024

Scale 1:24,000

1 Miles 1/2 0
1,000 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet
1 0.5 0 1 Kilometers

Contour Interval: 40 Feet
National Geodetic Vertical Datum of 1929

12.8°
TRUE NORTH
MAGNETIC NORTH
Approximate Mean Declination, 2026

This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program, STATEMAP Award no. G24AC00329.

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M.D. O'Neal - PG No. 10131

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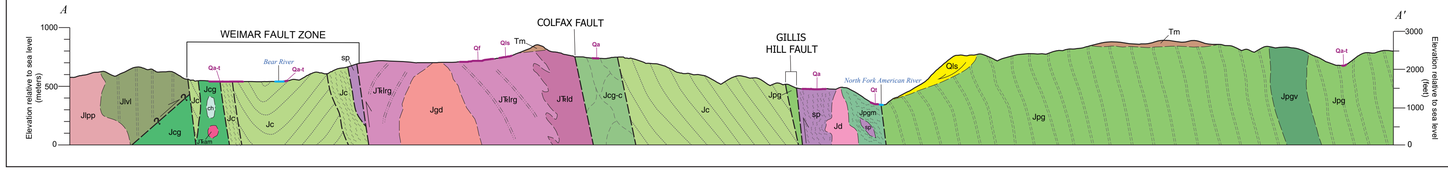
CROSS SECTION SYMBOLS

- Units too thin to show on cross section
- Bedding
- Primary foliation
- Metamorphic foliation
- Shear fabric
- Tectonically mixed block fabric



LIST OF MAP UNITS

QUATERNARY SURFICIAL UNITS

- af — Artificial fill (historic)
- t — Tailings (historic)
- Qa — Alluvial valley deposits (Holocene to Pleistocene)
- Qa-t — Modern alluvium with tailings (historic)
- Qac — Alluvial channel deposits (historic to late Holocene)
- Qf — Alluvial fan deposits (Holocene to Late Pleistocene)
- Qra — Rock avalanche deposits (Holocene to Late Pleistocene)
- Qls — Landslide deposits (Holocene to Late Pleistocene)
- Qtl — Talus (Holocene to Late Pleistocene)
- Qt — Terrace deposits (Pleistocene)

TERTIARY UNITS

- Tm — Mehrten Formation (early Pliocene to Miocene)
- Tg — Tertiary gravels (early Oligocene to Eocene)

MESOZOIC TO PALEOZOIC METAMORPHIC AND PLUTONIC UNITS

- Jdb — Diabase (Jurassic)

UNITS BETWEEN THE "APPLEGATE" AND GILLIS HILL FAULTS

- Jcg-c — Clipper Gap and Colfax tectonically mixed zones (Jurassic parent rock)
- Jc — Colfax Formation (Late to Middle Jurassic)
- Jcc — Colfax Formation conglomerate
- Jlr — Logtown Ridge Formation (Late to Middle Jurassic)
- Jcg — Clipper Gap Formation (Jurassic)
- ch — Chert (Early Jurassic to Triassic)
- am — Amphibolite (Jurassic? to Triassic)
- ls — Limestone (Carboniferous)

UNITS WEST OF THE WEIMAR FAULT ZONE AND COLFAX FAULT

Lake Combie Complex (Jurassic to Late Triassic)

Units West of the Weimar Fault Zone and "Applegate" Fault

- Jlpp — Porphyritic diabase (Jurassic)
- Jldp — Porphyritic gabbro-diorite (Jurassic)
- Jlvm — Middle volcanic member (Jurassic)
- Jlvl — Lower volcanic member (Jurassic)
- J₹lvu — Undifferentiated volcanic rocks (Jurassic to Late Triassic)

Units Between the Weimar Fault Zone and Colfax Fault

- J₹lrg — Rollins Dam gabbro (Jurassic to Late Triassic)
- J₹lrl — Rollins Dam layered gabbro (Jurassic to Late Triassic)
- J₹ld — Diabase dikes (Jurassic to Late Triassic)

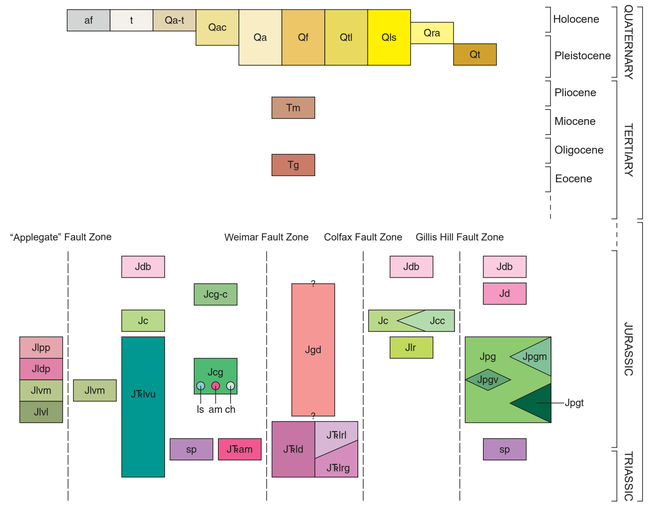
UNITS EAST OF THE GILLIS HILL FAULT

- Jpg — Phyllite and greenschist belt (Jurassic)
- Jpgv — Volcanic member
- Jpgm — Mélange member
- Jpgt — Talc schist member

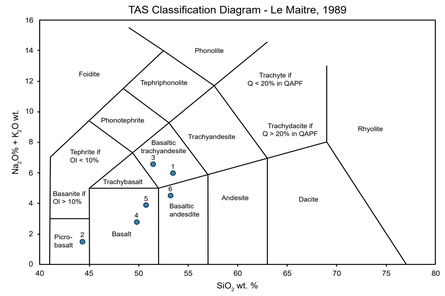
INTRUSIVE AND ULTRAMAFIC UNITS

- Jgd — Granodiorite (Jurassic?)
- Jd — Diorite (Jurassic?)
- sp — Serpentinite (Jurassic to Triassic?)
- J₹am — Amphibolite (Jurassic? to Late Triassic)

CORRELATION OF MAP UNITS

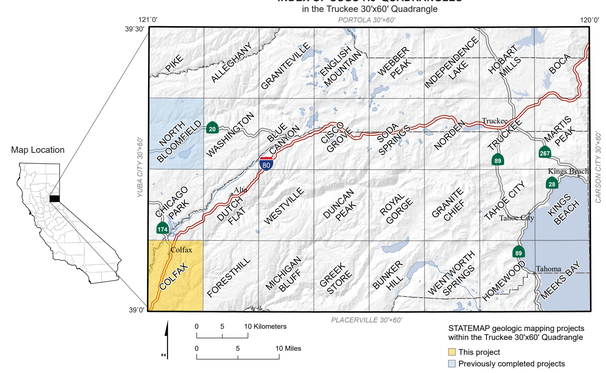


TAS Classification Diagram - Le Maitre, 1989



INDEX OF USGS 7.5′ QUADRANGLES

in the Truckee 30′x60′ Quadrangle



STATEMAP geologic mapping projects within the Truckee 30′x60′ Quadrangle

- This project
- Previously completed projects

MAP SYMBOLS

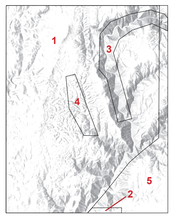
- Contact between map units—Solid where accurately located; long dash where approximately located; queried where uncertain
- Fault—Solid where accurately located; long dash where approximately located; short dash where inferred; dotted where concealed; queried where uncertain. Arrow and number indicate direction and angle of dip of fault plane. Applegate fault is an informal name from unpublished mapping to the south of the quadrangle by Aune (1979) and is labeled in quotations
- Syncline—Solid where accurately located; long dash where approximately located; arrow showing plunge direction
- Anticline (sedimentary rock) or antiform (metamorphic units)—Solid where accurately located; long dash where approximately located; arrow showing plunge direction
- Landslide—Arrows indicate principal direction of movement. Where mapped as a landslide complex, adjacent defined slides have different relative ages and/or failure types
- Geochemistry point (six samples)
- U-Pb detrital zircon geochronology point (one sample)
- U-Pb crystallization geochronology point (two samples). Langenheim and others (2025) and Rack (2021)
- Area of mine-related ground disturbance, primarily from historic hydraulic mining

Strike and dip of geologic structure; number indicates dip angle in degrees

- Bedding
- Bedding, vertical
- Bedding, overturned
- Bedding, top direction known
- Foliation, secondary
- Foliation, secondary, vertical

SOURCES OF MAP DATA

Colfax 7.5′ Quadrangle



1. Tuminas, 1983
2. Aune, 1979
3. Clark and Huber, 1975
4. Pease, 2025
5. Holland and others, 2025*

*Data source covers entire quadrangle

California Department of Conservation
California Geological Survey

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