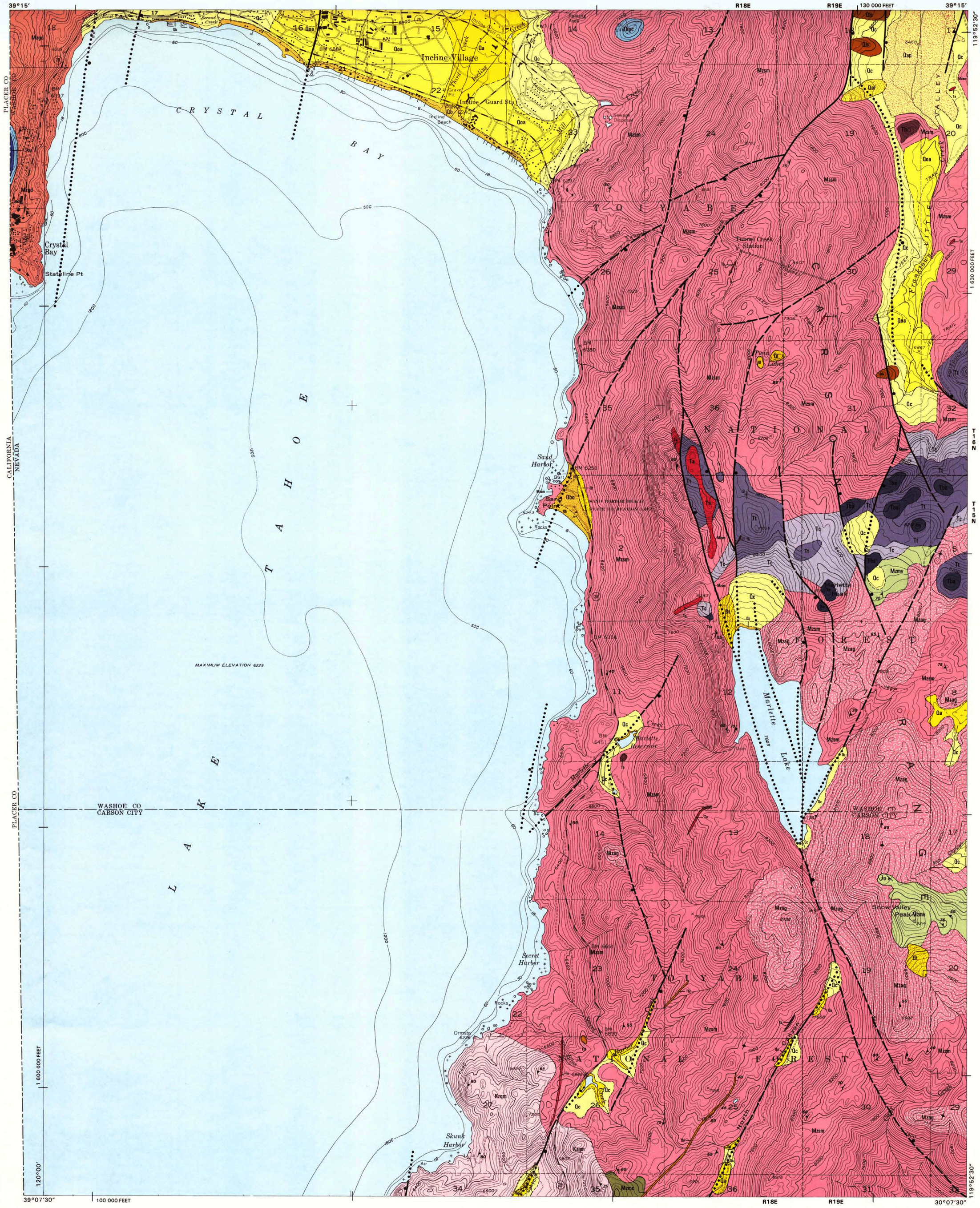
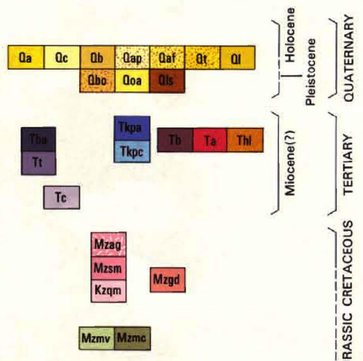
NEVADA BUREAU OF MINES AND GEOLOGY
LAKE TAHOE AREA MAP 2Cg

PREPARED IN COOPERATION WITH THE U.S. GEOLOGICAL SURVEY

MARLETTE LAKE QUADRANGLE
GEOLOGIC MAP

MARLETTE LAKE QUAD





Qa **Sandy gravel and gravelly sand alluvium.** Arkosic debris transported mainly from weathered granitic rocks. Occurs along low-gradient segments of streams, which are locally swampy with dense vegetation. Estimated thickness usually < 10 m.

Qc **Sandy boulder gravel colluvium.** Arkosic, derived mostly from weathering of granitic rocks along steep mountain fronts. Estimated thickness < 30 m.

Qb **Beach sand.** Arkosic, fine to very coarse grained. Restricted to shorelines of Lake Tahoe and Marlette Lake. Estimated thickness < 25 m.

Qap **Sandy gravel and gravelly sand alluvium on plain of Little Valley.** Composed of rounded, reworked volcanic pebbles to cobbles set in sandy arkosic matrix. Overlain by > ½ m of mixture of fine sediment and soil. Estimated thickness > 50 m.

Qaf **Granitic alluvial fan.** Composed of poorly sorted, fine- to very coarse grained debris. Occurs on west side of Little Valley. Estimated thickness > 50 m.

Qt **Talus.** Composed of gravelly to sandy granitic debris mostly at angle of maximum repose.

Ql **Lake sediments.** Composed of granitic sand and minor clay at Twin Lakes. Estimated thickness ≤ 10 m.

Qbo **Older beach sand.** Arkosic, fine to coarse grained. Forms tombolo east of Sand Point.

Qoa **Older sandy gravel and gravelly sand alluvium.** Extensive deposits at Incline Village composed of granitic and volcanic clasts, estimated thickness > 70 m locally. Older alluvium exposed in southern part of Little Valley composed mainly of reworked, rounded volcanic cobbles, ~20 m thick.

Qls **Landslide debris.** Granitic, unsorted, coarse grained. Three small masses faulted against the west bedrock margin of Little Valley.

Tba **Hornblende andesite flows and minor pyroxene-olivine basalt flows.** Medium to dark gray, aphanitic to sparsely and moderately microporphyritic and finely porphyritic with phenocrysts of plagioclase and mafic minerals. Up to 30 m preserved as youngest extrusive unit in Marlette Lake area. In part equivalent to Tau—andesite, undifferentiated of Trexler (1977).

Tt **Lenihan Canyon tuff.** Vitric-crystal, white, gray, tan, coarse grained, moderately welded, with crystals of quartz, feldspar, and biotite, and rare volcanic lithic fragments in vitroclastic matrix. > 125 m locally preserved in paleovalley north of Marlette Lake.

Tc **Conglomerate and breccia.** Angular to rounded pebbles to boulders of Tertiary volcanic rocks (70%), pre-Tertiary metavolcanic rocks (25%), and pre-Tertiary mafic plutonic rocks (5%), total thickness ≤ 100 m. It is the lowest mapped unit within the east-northeast–trending paleovalley north of Marlette Lake. Equivalent to Tlg—interformational gravel of Trexler (1977) and mapped by Trexler in part as QTg—pediment gravel.

Tkpa **Kate Peak Formation.** Equivalent to Kate Peak Formation of Thompson and White (1964). **Tkpa:** Dacite flows. Medium to dark gray, variously porphyritic mainly with plagioclase phenocrysts ≤ 3 mm long. Occurs on peninsula of Stateline Point. **Tkpc:** Conglomerate. Subangular to subrounded pebbles to boulders of various Tertiary volcanic rocks. Occurs beneath Kate Peak flows.

Tkpc

Tb **Basalt.** Dark gray to black, aphanitic to finely sparsely porphyritic with olivine phenocrysts < 2 mm diam. set in subophitic groundmass of pyroxene and plagioclase microlites. Occurs as two small plugs and two small dikes.

Ta **Andesite.** Light to dark gray, aphanitic to sparsely microporphyritic with varying amounts of hornblende, augite, and rare olivine phenocrysts set in hyalo-ophitic groundmass with rare quartz xenocrysts. Occurs as several small to large dikes and plugs.

Thl **Porphyritic hornblende-sanidine latite.** Coarsely abundantly porphyritic with euhedral phenocrysts, some > 5 mm long, of sanidine, hornblende, and biotite set in microcrystalline to cryptocrystalline matrix. Occurs as two massive dikes and one small plug, outliers of Glenbrook volcanic area 3 mi to south (Grose, 1985).

Mzag **Seriate aplitic granite to granodiorite.** White to medium gray, slightly pink locally, fine to coarse grained, locally pegmatitic and rarely gneissic. Aplite and pegmatite dikes distinctively common. Forms irregular border phase of Mzsm ≤ 700 m thick associated with metavolcanic wall rocks.

Mzsm **Biotite-hornblende monzogranite of Spooner Summit** (Grose, 1985). White to light gray, medium grained, idiomorphic, sparsely porphyritic with crudely lineated hornblende laths ≤ 12 mm long. Massive-structureless to locally weakly foliated. Rare dioritic inclusions usually 1–20 cm long.

Kzqm **Hornblende-biotite quartz monzodiorite and granodiorite of Zephyr Cove** (Grose, 1985). Light to medium gray, medium grained, hypidiomorphic. Massive-structureless to moderately foliated; commonly weak foliation exhibited by hornblende, biotite, and inclusions. Ubiquitous dioritic inclusions 2–50 cm long.

Mzgd **Hornblende granodiorite.** Light to medium gray, medium grained, hypidiomorphic. Massive-structureless to weakly foliated on mafic minerals. Sparse mafic inclusions. Occurs on peninsula of Stateline Point.

Mzmv **Metamorphosed tuff and flows.** Medium to dark gray, locally greenish, aphanitic to fine grained. Massive to thick bedded and locally finely laminated and weakly foliated. Silicic to intermediate composition. Occurs in two areas as roof pendants.

Mzmc **Metaconglomerate and metasandstone.** Medium-to dark-gray, medium-grained sandstone to fine quartzose and volcanic conglomerate. Protolith of graywacke metamorphosed to biotite-quartz hornfels and semischist. Occurs as northern extremity of large roof pendant to south (Grose, 1985).

Contact. Dashed where approximately located; dotted where gradational.

Fault. Dashed where approximately located; dotted where concealed. Ball on downthrown side. All faults believed to be normal.

Bedding in volcanic rocks

strike and dip in degrees

Foliation in plutonic and metamorphic rocks

inclined vertical

Jointing in plutonic rocks

inclined vertical

Igneous dike

with degrees of dip

REFERENCES

Grose, T. L. T. (1985) Geologic map of the Glenbrook quadrangle, Nevada: Nevada Bureau of Mines and Geology Map 2Bg, scale 1:24,000.

Thompson, G. A., and White, D. E. (1964) Regional geology of the Steamboat Springs area, Washoe County, Nevada: U.S. Geological Survey Professional Paper 458-A, p. A1-A52.

Trexler, D. T. (1977) Carson City folio—geologic map: Nevada Bureau of Mines and Geology Map 1Ag, scale 1:24,000.

T. L. T. Grose, 1986

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Scale 1:24,000
CONTOUR INTERVAL 40 FEET

0 0.5 1 kilometer
0 0.5 1 mile
0 1000 2000 3000 4000 5000 feet

Base map: U.S. Geological Survey, Marlette Lake 7½′ quadrangle, 1969
First edition, first printing, 1986: 1050 copies
Printing: Williams and Heintz Map Corp., Washington, D.C.
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Typesetting: Rayetta Buckley
Pasteup: Mati Stephens

For sale by the Nevada Bureau of Mines and Geology, University of Nevada-Reno, Reno, Nevada, 89557-0088. Order Map 2Cg, $4.00.

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