EXPLANATION

VOLCANIC ROCKS

QUATERNARY

LATE RHYOLITE

Qp — Recent rhyolite pumice and ash

Qct, Qss — Hot spring deposits
Qct: calcareous tufa
Qss: siliceous sinter

Qlr3 — Hornblende-biotite rhyolite
Domes and flows of the western moat

Qb3 — Trachybasalt

Qb2 — Coarsely porphyritic olivine-augite-plagioclase basalt

Qb1 — Trachybasalt

Qlr2 — Hornblende-biotite rhyolite
Domes and flows of the southeastern moat

Qlr1 — Hornblende-biotite rhyolite
Domes and flows of the northern moat

EARLY RHYOLITE

Qer3 — Sparsely porphyritic pyroxene-bearing rhyolite

Qer2 — Sparsely porphyritic biotite-bearing rhyolite

Qer1 — Aphyric to sparsely porphyritic rhyolite

Qrt — Aphyric to sparsely porphyritic rhyolite tuff undivided

CALDERA COLLAPSE

Qbt — Bishop Tuff
(Gilbert, 1938)

UNCONFORMITY

TERTIARY

Tv — Tertiary volcanic rocks

UNCONFORMITY

CRETACEOUS

Kgr — Granite, quartz monzonite, and granodiorite of the Sierra Nevada batholith
Includes small areas of Paleozoic and Mesozoic metamorphic rocks in southwest corner of map.
(See Rinehart and Ross, 1964)

ORDOVICIAN(?)

Osc — Sandstone of Big Springs
(Rinehart and Ross, 1964)

SEDIMENTARY ROCKS

QUATERNARY

Qaf — Modern artificial fill

Qal — Younger alluvium
Areas of active alluviation

Qoa — Older alluvium
Areas of inactive alluviation

Qg — Gravel and sand
alluviation or alluvium undergoing erosion

Qaf — Alluvial fans

Qtw — Glacial deposits of Wisconsin Age
Tahoe, Tenaya, and Tioga Substages undivided

Qtu — Glacial deposits of uncertain age

Qb — Basalt undivided

Qa — Trachy-andesite

Qql — Quartz latite

Relative ages uncertain

Qtc — Casa Diablo till
(Curry, 1968, 1971)

Qm — Tuffaceous sediments containing abundant silicified marsh grass

Qdl — Diatomaceous lake clay

Qsc — Tuffaceous sandstone and conglomerate

Qtg — Lake terrace gravel
Mainly well-rounded obsidian pebbles; remnants of structurally elevated terraces of Pleistocene Long Valley Lake (Mayo, 1934)

Contact
Dashed where approximately located

Normal fault
Ball and bar on downthrown side. Dashed where approximately located; queried where doubtful; dotted where concealed.

Strike and dip of bedding and of deltaic topset bedding.

Strike and dip of cross-bedding and of deltaic foreset bedding

Strike and dip of flow foliation and plunge of lineation

Strike and dip of flow foliation showing horizontal lineation

Scarplets and fractures related to landslide, slump, or local subsidence

Areas of bleached and hydrothermally altered rocks

Location of ice-rafted (?) glacial erratics

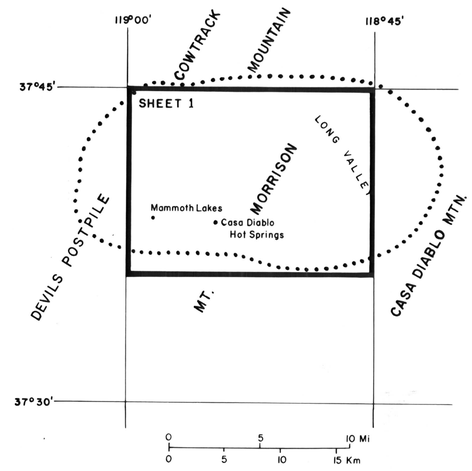
Thermal spring

Fumarole

Volcanic center or vent

Crater rim

Inferred position of outer ring-fractures of Long Valley caldera



Index map showing outline of Long Valley caldera (dotted) and included U.S.G.S. 15' quadrangles

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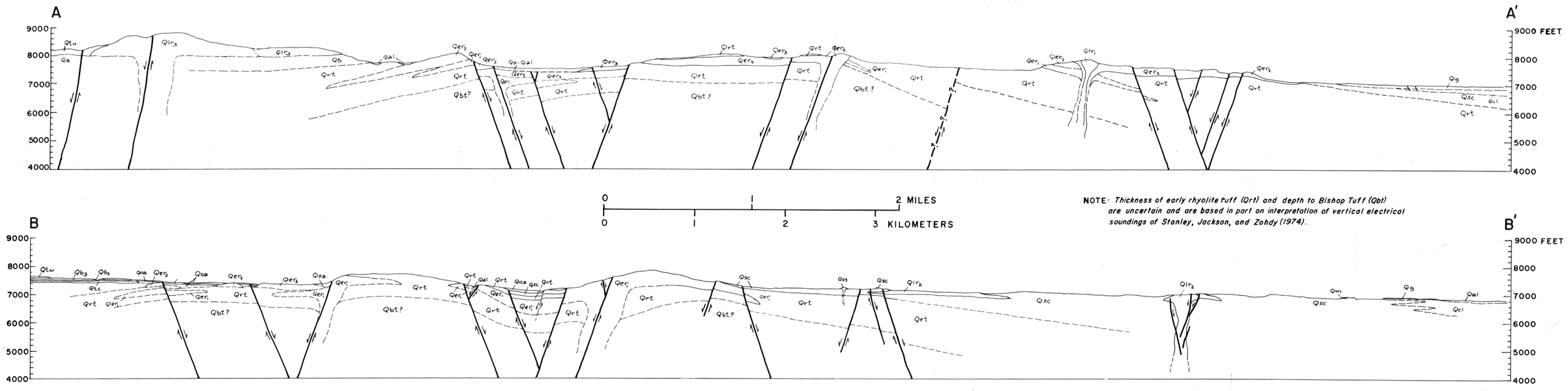

NOTE: *Thickness of early rhyolite tuff (Qrt) and depth to Bishop Tuff (Qbt) are uncertain and are based in part on interpretation of vertical electrical soundings of Stanley, Jackson, and Zohdy (1974).*

PRELIMINARY GEOLOGIC MAP AND CROSS-SECTIONS OF THE CASA DIABLO GEOTHERMAL AREA, LONG VALLEY CALDERA, MONO COUNTY, CALIFORNIA

Roy A. Bailey 1974

U. S. Geological Survey
OPEN FILE MAP
This map is preliminary and has not been edited for conformity with Geological Survey Standards or nomenclature.