U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

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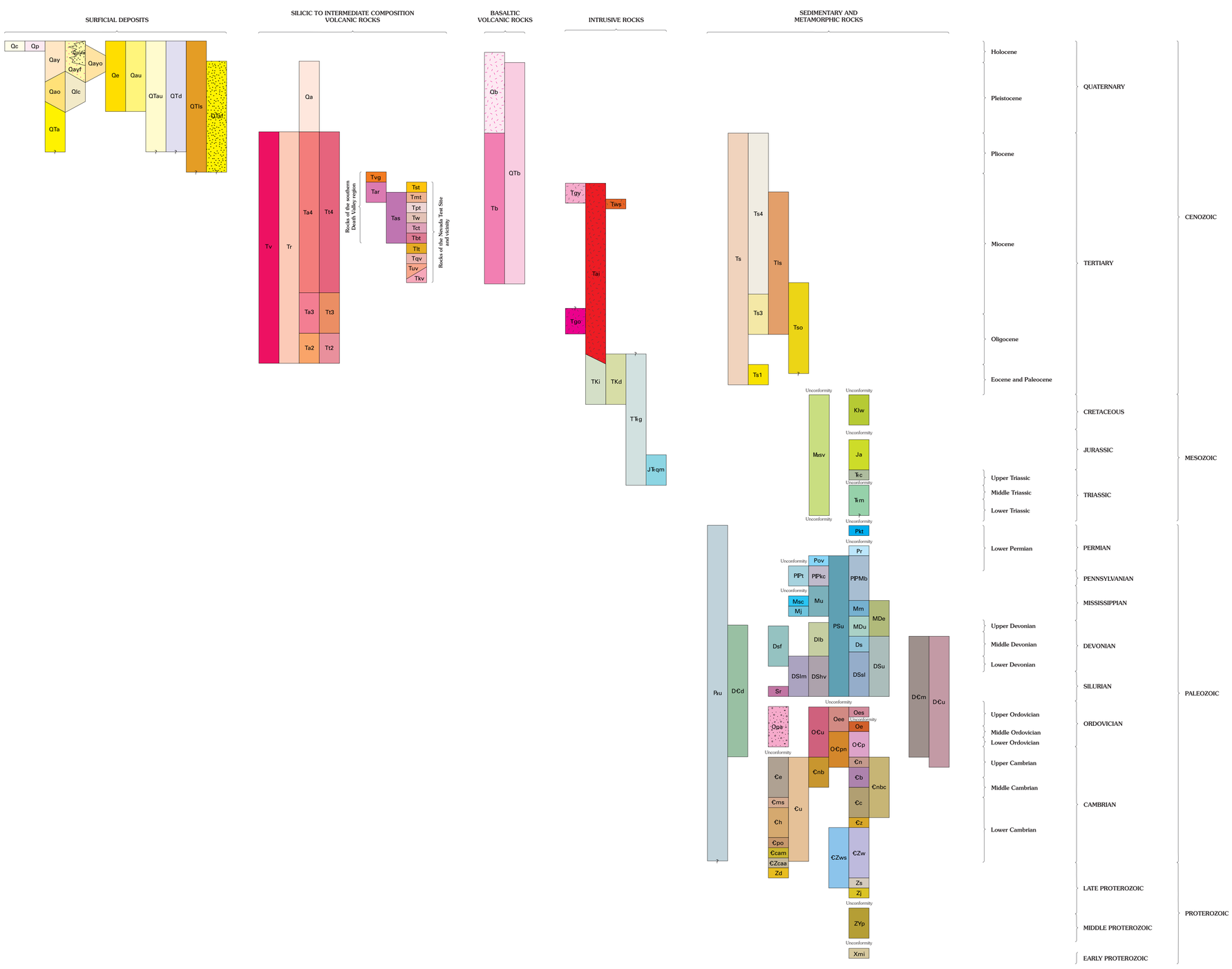
MISCELLANEOUS FIELD STUDIES MAP MF-2381-A
Version 1.0
Sheet 2 of 2
Pamphlet accompanies map

CORRELATION OF MAP UNITS



LIST OF MAP UNITS

SURFICIAL DEPOSITS

- Qc — Channel alluvium (Holocene)
- Qp — Playa and (or) salt pan deposits (Holocene)
- Qay — Young alluvium (Holocene to latest Pleistocene?)
- Qayf — Young fine-grained alluvium (Holocene to latest Pleistocene?)
- Qaylc — Evaporite surface crust of salts and (or) carbonate (Holocene to latest Pleistocene?)
- Qayo — Intermediate-age alluvium (middle Holocene to latest Pleistocene?)
- Qe — Eolian deposits (Holocene to middle Pleistocene)
- Qau — Undifferentiated alluvium (Holocene to Pleistocene)
- QTau — Undifferentiated older alluvium (Holocene to latest Tertiary)
- QTd — Deposits associated with modern or past ground-water discharge (Holocene to late Tertiary)
- QTls — Landslide block (Holocene to late Tertiary)
- QTsf — Old alluvial, paludal, or lacustrine sediments (Pleistocene to late Tertiary)
- Qao — Old alluvium (late to middle Pleistocene)
- Qlc — Old lacustrine deposits (late to middle Pleistocene)
- QTa — Oldest alluvium (middle Pleistocene to late Tertiary)

BEDROCK UNITS

SILICIC TO INTERMEDIATE-COMPOSITION VOLCANIC ROCKS

- Qa — Young intermediate-composition lava flows, undivided (Pleistocene)
- Tv — Volcanic rocks, undivided (Pliocene to Oligocene)
- Tr — Felsic-composition lava flows, undivided (Pliocene to Oligocene)
- Ta4 — Intermediate-composition lava flows, unit 4 (Pliocene and Miocene)
- Tt4 — Ash-flow tuffs and interbedded air-fall tuffs, unit 4 (Pliocene and Miocene)

Rocks of the southern Death Valley region (Miocene)

- Tvg — Greenwater Volcanics
- Tar — Intermediate- to felsic-composition lava flows of the central Death Valley volcanic field
- Tas — Intermediate- to felsic-composition lava flows of the southern Death Valley-Kingston Range volcanic belt

Rocks of the Nevada Test Site and vicinity (Miocene)

- Tst — Stonewall Flat Tuff and tuffs of the Thirsty Canyon Group, undivided
- Tmt — Tuffs of the Timber Mountain Group
- Tpt — Tuffs of the Paintbrush Group
- Tw — Wahmonie and Salyer Formations, undivided
- Tct — Tuffs of the Crater Flat Group
- Tbt — Tuffs of the Belted Range Group
- Tlt — Lithic Ridge Tuff, rhyolite of Picture Rock, Tunnel Formation, and comendite of Quartet Dome, undivided
- Tqv — Volcanic rocks of Quartz Mountain
- Tuv — Older ash-flow tuffs and lava sequences, undivided
- Tkv — Lava flows of the Belted Range
- Ta3 — Intermediate-composition lava flows, unit 3 (Miocene and Oligocene)
- Tt3 — Ash-flow tuffs and interbedded air-fall tuffs, unit 3 (Miocene and Oligocene)
- Ta2 — Intermediate-composition lava flows, unit 2 (Oligocene)
- Tt2 — Ash-flow tuffs and interbedded air-fall tuffs, unit 2 (Oligocene)

BASALTIC VOLCANIC ROCKS

- Qb — Young basaltic lava flows (Holocene to Pleistocene)
- QTb — Basaltic lava flows, undivided (Pleistocene to Miocene)
- Tb — Old basaltic lava flows (Pliocene to Miocene)

INTRUSIVE ROCKS

- Tgy — Young granitic intrusive rocks (Miocene)
- Tai — Younger intermediate-composition intrusive rocks (Miocene to Oligocene)
- Tws — Gabbro to diorite intrusive rocks of Willow Springs (Miocene)
- Tgo — Older granitic intrusive rocks (Miocene? to Oligocene)
- TKi — Older intermediate-composition intrusive rocks (Oligocene to Cretaceous)
- TKd — Mafic intrusive rocks (Oligocene to Cretaceous)
- T'Kg — Oldest granitic intrusive rocks (Tertiary? to Triassic)
- JTkqm — Avawatz Mountains quartz monzodiorite, undivided (Early Jurassic to Late Triassic)

SEDIMENTARY AND METAMORPHIC ROCKS

- Ts — Sedimentary rocks, undivided (Pliocene to Eocene)
- Ts4 — Sedimentary rocks, unit 4 (Pliocene and Miocene)
- Tls — Landslide and mega-breccia deposits (Miocene to Oligocene)
- Tso — Sedimentary rocks older than the rocks of the Nevada Test Site and vicinity (Miocene to Eocene?)
- Ts3 — Sedimentary rocks, unit 3 (Miocene and Oligocene)
- Ts1 — Sedimentary rocks, unit 1 (Eocene and Paleocene)
- Msv — Sedimentary and volcanic rocks, undivided (Mesozoic)
- Klw — Lavinia Wash sequence (Upper and Lower Cretaceous)
- Ja — Aztec Sandstone (Jurassic)
- Trc — Chinle Formation (Upper Triassic)
- Trm — Moenkopi Formation (Middle? and Lower Triassic)
- Pzu — Sedimentary rocks, undivided (Paleozoic)
- Pkt — Kaibab and Toroweap Formations, undivided (Lower Permian)
- Pr — Redbeds (Lower Permian)
- Pov — Owens Valley Group (Lower Permian)
- PSu — Sedimentary rocks, undivided (Permian to Silurian)
- PPMb — Bird Spring (Lower Permian and Pennsylvanian) and Indian Springs Formations (Upper Mississippian)
- PPt — Tippipah Limestone (Lower Permian and Pennsylvanian)
- PPkc — Keeler Canyon Formation (Lower Permian to Middle Pennsylvanian)
- Mu — Sedimentary rocks, undivided (Upper and Lower Mississippian)
- Msc — Scotty Wash Quartzite (Upper Mississippian) and Chainman Shale (Upper and Lower Mississippian), undivided
- Mm — Monte Cristo Group (Upper and Lower Mississippian)
- MDe — Eleana Formation (Mississippian and Upper Devonian)
- Mj — Joana Limestone (Lower Mississippian)
- MDu — Sedimentary rocks, undivided (Lower Mississippian and Upper and Middle Devonian)
- Dlb — Lost Burro Formation (Upper and Middle Devonian)
- D€d — Dolomite and limestone, undifferentiated (Devonian to Upper Cambrian)
- Dsf — Slope-facies carbonate rocks (Upper to Lower Devonian)
- Ds — Simonson Dolomite (Middle Devonian)
- DSu — Sedimentary rocks, undivided (Devonian and Silurian)
- D€m — Mountain Springs Formation (Middle Devonian, Lower Ordovician, and Upper Cambrian)
- D€u — Mountain Springs (Middle Devonian, Lower Ordovician, and Upper Cambrian) and Nopah Formations (Upper Cambrian), undivided
- DSsl — Sevy (Middle and Lower Devonian) and Laketown (Upper and Middle Silurian) Dolomites, undivided
- DSlm — Lone Mountain Dolomite (Lower Devonian and Silurian)
- DShv — Hidden Valley Dolomite (Lower Devonian and Silurian)
- Sr — Roberts Mountains Formation (Silurian)
- Opa — Palmetto Formation (Upper, Middle, and Lower Ordovician)
- O€u — Sedimentary rocks, undivided (Ordovician and Upper Cambrian)
- Oee — Ely Springs Dolomite (Upper Ordovician) and Eureka Quartzite (Upper and Middle Ordovician), undivided
- Oes — Ely Springs Dolomite (Upper Ordovician)
- Oe — Eureka Quartzite (Upper and Middle Ordovician)
- O€pn — Pogonip Group (Middle and Lower Ordovician and Upper Cambrian) and Nopah Formation (Upper Cambrian), undivided
- O€p — Pogonip Group (Middle and Lower Ordovician and Upper Cambrian)
- €e — Emigrant Formation (Upper and Middle Cambrian)
- €u — Sedimentary rocks, undivided (Upper to Lower Cambrian)
- €nb — Nopah (Upper Cambrian) and Bonanza King Formations (Upper and Middle Cambrian), undivided
- €n — Nopah Formation (Upper Cambrian)
- €nbc — Nopah (Upper Cambrian), Bonanza King (Upper and Middle Cambrian), and Carrara Formations (Middle and Lower Cambrian), undivided
- €b — Bonanza King Formation (Upper and Middle Cambrian)
- €c — Carrara Formation (Middle and Lower Cambrian)
- €ms — Mule Spring Limestone (Lower Cambrian)
- €h — Harkless Formation (Lower Cambrian)
- €z — Zabriskie Quartzite (Lower Cambrian)
- €Zws — Wood Canyon Formation (Lower Cambrian and Late Proterozoic) and Stirling Quartzite (Late Proterozoic), undivided
- €Zw — Wood Canyon Formation (Lower Cambrian and Late Proterozoic)
- €po — Poleta Formation (Lower Cambrian)

Campito Formation (Lower Cambrian and Late Proterozoic)

- €cam — Montenegro Member (Lower Cambrian)
- €Zcaa — Andrews Mountain Member (Lower Cambrian and Late Proterozoic)

- Zd — Deep Spring Formation (Late Proterozoic)
- Zs — Stirling Quartzite and Reed Dolomite, undivided (Late Proterozoic)
- Zj — Johnnie and Wyman Formations, undivided (Late Proterozoic)
- ZYp — Pahrump Group (Late and Middle Proterozoic)
- Xmi — Metamorphic and igneous rocks, undifferentiated (Early Proterozoic)