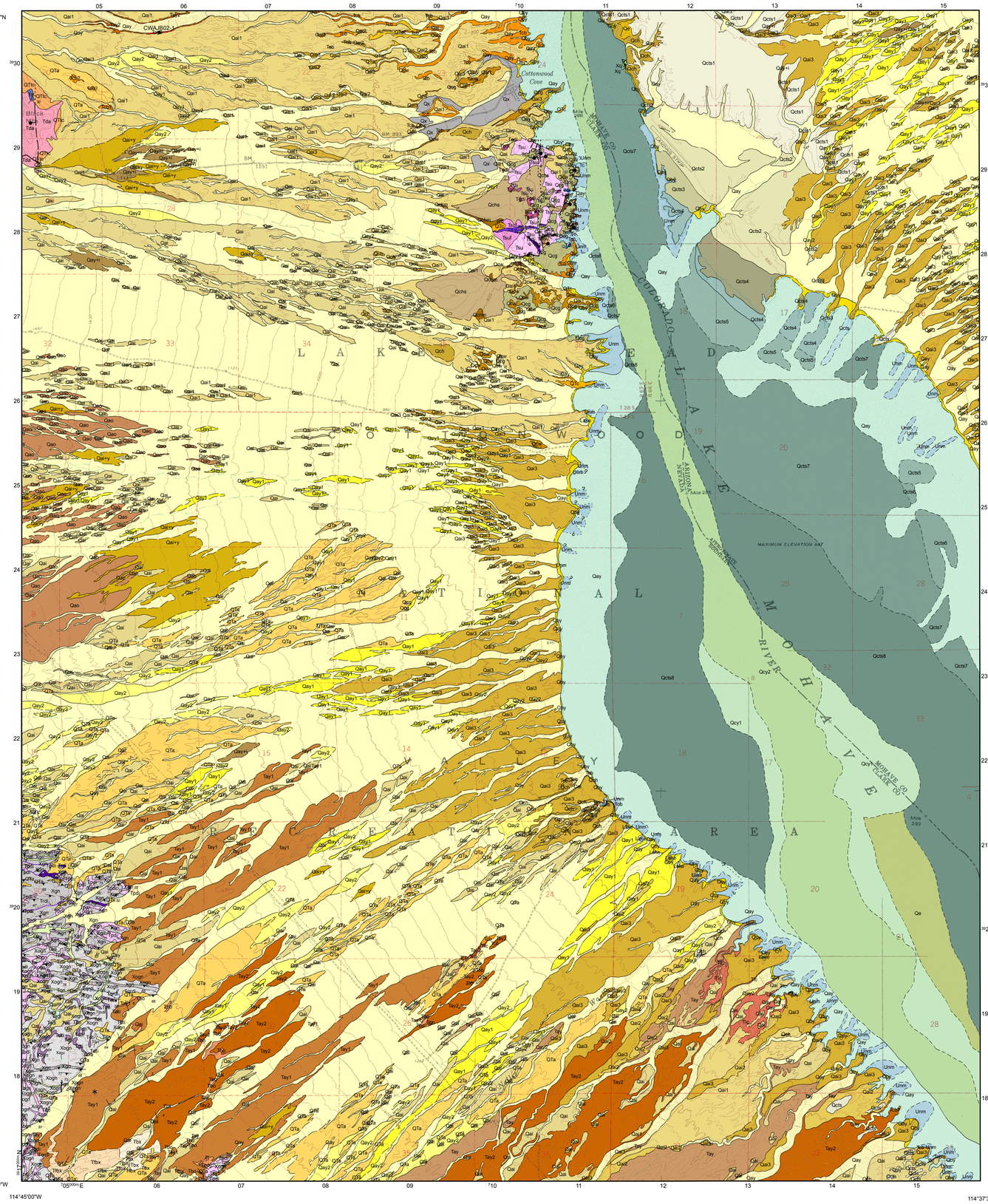
Prepared as part of the STATEMAP component of the National Cooperative Geologic Mapping Program in cooperation with the U.S. Geological Survey and with support from the Bureau of Land Management through the Southern Nevada Public Land Management Act (SNPLMA)



PRELIMINARY GEOLOGIC MAP OF THE SPIRIT MTN. NW QUADRANGLE, CLARK COUNTY, NEVADA AND MOHAVE COUNTY, ARIZONA

P. Kyle House and James E. Faulds

2009

Surficial Geologic Deposits

Piedmont Alluvium and Hillslope Deposits

- Qay — Young piedmont alluvium, undivided (Holocene)
- Qay2 — Piedmont alluvium (late to middle Holocene)
- Qay1 — Piedmont alluvium (Middle to early(?) Holocene)
- Qai — Intermediate age piedmont alluvium, undivided (early Holocene to late Pleistocene)
- Qai3 — Piedmont alluvium (early Holocene to late Pleistocene)
- Qai2 — Piedmont alluvium (Late Pleistocene)
- Qai1 — Piedmont alluvium (late to middle Pleistocene)
- Qay+i — Piedmont alluvium, undivided. Mixed Qay and Qai (Holocene to Pleistocene)
- Qai+y — Piedmont alluvium, undivided. Mixed Qai and Qay (Holocene to Pleistocene)
- Qao — Piedmont alluvium (middle to early Pleistocene)
- QTa — Piedmont alluvium, undivided (early Pleistocene to late Miocene)
- QTac — Piedmont alluvium with reworked Colorado River sediments (early Pleistocene to late Pliocene(?))
- QTtc — Talus and colluvium (Pleistocene to Pliocene)
- Tay — Ancient piedmont alluvium / fanglomerate (Pliocene to late Miocene)
- Tay2 — Ancient piedmont alluvium / fanglomerate that likely postdates river integration (early Pliocene to late Miocene)
- Tay1 — Ancient piedmont alluvium / fanglomerate that likely predates river integration (late Miocene)

Colorado River Deposits

- Qcy2 — Colorado River channel and proximal floodplain sediments, below lake level (Recent)
- Qcy1 — Young Colorado River terrace, below lake level (Recent)
- Qcts — Colorado River terrace sediments, undivided (Late Pleistocene)
- Qcts8 — Eighth Colorado River terrace, below lake level (Recent)
- Qcts7 — Seventh Colorado River terrace, below lake level (Holocene)
- Qcts6 — Sixth Colorado River terrrace, below lake level (Holocene?)
- Qcts5 — Fifth Colorado River terrace, mostly below lake level (early Holocene (?) to late Pleistocene
- Qcts4 — Fourth (lowest lying relative to lake) Colorado River terrace (late Pleistocene)
- Qcts3 — Third Colorado River terrace (late Pleistocene)
- Qcts2 — Second Colorado River terrace (late Pleistocene)
- Qcts1 — First (oldest and highest) Colorado River terrace (late Pleistocene)
- Qcs — Colorado River sediments, undivided (late to middle (?) Pleistocene)
- Qcg — Colorado River gravels, undivided (late to middle Pleistocene)
- Qch — Colorado River sediments. Chemehuevi beds of House et al. (2005) (late Pleistocene)
- Qchs — Sand dominated facies of the Chemehuevi beds (late Pleistocene)
- Qchm — Mud-dominated facies of the Chemehuevi beds (late Pleistocene)
- Qcw — Colorado River sediments. The 'sediments of Cottonwood Cove' (late (?) Pleistocene)
- QTc — Colorado River sediments, undivided (early Pleistocene to late Pliocene(?))
- Tcb — Colorado River sediments. Bullhead alluvium of House and others (2005, 2008) (early Pliocene)
- Tcb? — Eolian deposits of reworked Tcb? (Pliocene)

Other Units

- Qby — Lake Mohave Beach sediments (recent)
- Qe — Eolian sand (recent to late Pleistocene)
- Qx — Anthropogenic deposits (recent)
- Lake — Lake Mohave and back-barrier lagoons and ponds
- Unm — Unmapped materials below lake level (recent to Miocene)

Pliocene and late Miocene Strata

- Tbo — Bouse formation. Lacustrine sediments, tufa, and limestone. Early Pliocene to late Miocene
- Tlc — Valley fill sediments. Lost Cabin beds of House et al. (2008)? (late Miocene)
- Tfbx — Massive debris flow deposits composed primarily of Xogn (late Miocene)
- Tbx — Landslide megabreccia composed of Xogn and lesser Xapi (late Miocene)

Miocene Strata

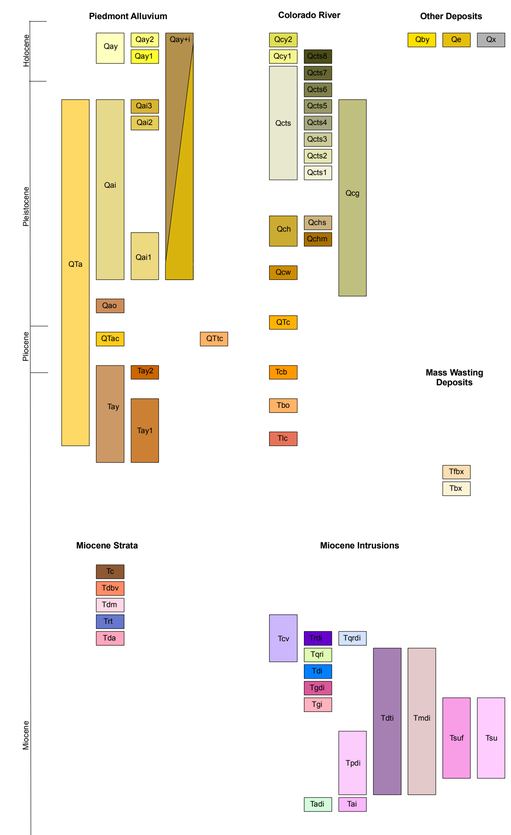
- Tc — Conglomerate and Sandstone (middle to late Miocene)
- Tdbv — Breccia of volcanic rock (middle Miocene) Prob. correlates with breccia units in Mount Davis Volcanics (Faulds, 1995).
- Tdm — Basaltic andesite lavas (middle Miocene) Prob. correlates with mafic lavas of Mount Davis Volcanics (Faulds, 1995).
- Trt — Rhyolitic tuffaceous rocks (middle Miocene)
- Tda — Dacite-andesite lavas (middle Miocene) Possibly correlative with Mount Davis Volcanics.

Miocene Intrusions

- Tcv — Calcite veins (middle Miocene)
- Tqrdi — Rhyodacite dikes - quartz bearing (middle Miocene)
- Trhdi — Rhyodacite dikes (middle Miocene)
- Tqri — Rhyolite dikes - quartz bearing (middle Miocene)
- Tgdi — Porphyritic granodiorite dikes (middle Miocene)
- Tdi — Dacite dikes (middle Miocene)
- Tgi — Granitic dikes (early to middle Miocene
- Tsuf — Upper Searchlight pluton, porphyritic-phaneritic phase, quartz monzonite to granodiorite (early to middle Miocene)
- Tsu — Upper Searchlight pluton, quartz monzonite to granodiorite (early to middle Miocene)
- Tpdi — Porphyritic dacite or diorite dikes (early to middle Miocene)
- Tdti — Fine to medium-grained, locally porphyritic diorite dikes (early to middle Miocene)
- Tadi — Altered andesite, dacite, and diorite dikes (early to middle Miocene)
- Tai — Andesite to dacite dikes (early to middle Miocene)
- Tmdi — Microdiorite dikes (early to middle Miocene)

Proterozoic (?)

- Xapi — Aplite dikes (Paleoproterozoic?)
- Xpg — Pegmatite dikes (Paleoproterozoic?)
- Xogn — Granitic to dioritic orthogneiss (Paleoproterozoic?)
- Xgn — Gneiss - Undivided, primarily paragneiss (Paleoproterozoic)
- Xq — Quartzite (Paleoproterozoic?)



Symbology (per FGDC-STD-013-2006)

Contact Solid where certain and location accurate, long-dashed where approximate, short-dashed where inferred.

Normal fault Solid where certain and location accurate, long-dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Ball on downthrown side.

Mainly strike-slip fault Solid where certain and location accurate, long-dashed where approximate, dotted where concealed; queried if identity or existence uncertain. Arrows show relative motion.

Vein Showing dip.

Tephra Bed

Tephra Sample Locality
CWAJB02-1

Tephra exposure

Strike and dip of bedding
Inclined

Strike and dip of metamorphic foliation
Inclined Foliation
Vertical Foliation

Strike and dip of joints
Inclined

Adjoining 7.5' quadrangle names

1	2	3
4	5	6
7	8	9

1 Ireteba Peaks
2 Mount Davis
3 Mount Perkins
4 Fourth of July Mountain
5 Spirit Mtn. NW
6 Spirit Mtn. NE
7 Searchlight SE
8 Spirit Mtn.
9 Spirit Mtn. SE

Scale 1:24,000

0 0.5 1 kilometer

0 0.5 1 mile

0 1000 2000 3000 4000 5000 feet

CONTOUR INTERVAL 40 FEET

Projection: Universal Transverse Mercator, Zone 11, North American Datum 1927 (m)

Base map: U.S. Geological Survey Spirit Mtn. NW 7.5' quadrangle (1959), *Polyconic projection*

Geologic mapping in UTM is no longer coincident with this base.

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DRAFT
Preliminary geologic map
Has not undergone office or field review
Will be revised before publication

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