

Geologic map of the southern Lincoln Ranch basin, Buckskin Mountains, west-central Arizona

by John Singleton, Emily Bird, and Marques Hatfield, George Mason University; Support provided by the U.S. Geological Survey EdMap Program, Award no. G13AC00232

EXPLANATION

Post-detachment fault units

- md** Mine dump and disturbed ground (recent) – black tailings from Mn mining in unit Tlc-Tlsc and ground disturbed by mining
- Qal** Young alluvium (Holocene) – unconsolidated gravel, sand, and silt within modern drainages
- Qoal** Old alluvium (Pleistocene to Holocene) – unconsolidated to weakly consolidated alluvium dissected by modern drainages, tan to light brown
- Tbf** Basin-fill deposits (late Miocene to Pliocene?) – poorly sorted, weakly consolidated, tan to light red-brown, dominantly conglomerate but locally includes minor sandstone and siltstone in the western portion of the map

Upper plate units

- Tucs** Sandstone interval within unit Tuc (middle Miocene) – medium- to coarse-grained, brown to red-brown sandstone beds within unit Tuc, gradational contact with conglomerate above and below
- Tuc** Upper conglomerate (middle Miocene) – tan to red-brown, locally sandy, clasts are up to ~0.5 m wide and include crystalline and metasedimentary mylonite, conglomerate, sandstone, volcanics, granitoids, and cataclaste
- Tt** Tuff (early to middle Miocene) – white, reworked ash-fall tuff interbedded with units Tlms and Tus, up to four tuff beds within unit Tus range from ~15 cm to 2.5 m thick
- Tpl** Landslide deposit within Tus (middle Miocene) – landslide deposit consisting of intensely brecciated gray to red-brown phyllite (unit Pq)
- Tus** Upper sandstone (middle Miocene) – mostly medium-grained, brown to red-brown, relatively homogeneous, mm- to cm-scale planar beds are dominant, minor pebbly sandstone beds include mylonite clasts
- Tlms** Lacustrine limestone and sandstone (early to middle Miocene) – cherty, gray to brown limestone with algal laminations, interbedded with red-brown sandstone and siltstone, limestone locally contains silicified reed stems
- Tlts** Lower sandstone (early to middle Miocene) – mostly medium- to coarse-grained, locally interbedded with minor siltstone and sandy conglomerate containing granitic and volcanic clasts, dark red-brown to red-brown
- Tlsc** Lower conglomerate interbedded with sandstone (early Miocene) – unit Tlc interbedded with coarse-grained, red-brown sandstone
- Tlc** Lower conglomerate (early Miocene) – poorly sorted, consists dominantly of granitic and volcanic clasts and locally sandstone and conglomerate clasts, dark red-brown to black where Mn mineralization present
- Tlcv** Lower conglomerate with brecciated basaltic lava flows (early Miocene) – interbedded units Tv_b and Tlc
- Tv** Brecciated volcanic rocks (early Miocene) – Basalt to dacite, intensely fractured and tectonically brecciated, locally interbedded with coarse-grained volcanoclastic sandstone, Tv_b = dominantly basaltic, Tv_a = dominantly dacitic with phenocrysts of biotite and hornblende, Tv = undifferentiated
- Tbs₂** Basal tuffaceous and arkosic sandstone (early Miocene) – massive, coarse-grained sandstone comprised of tuffaceous and granitic detritus, light gray to purple-brown, locally interbedded with siltstone and limestone
- Tbs₁** Basal arkosic sandstone (early Miocene) – massive, coarse-grained sandstone and granule conglomerate comprised entirely of granitic detritus, rounded cobbles locally present, light gray to red-brown
- Pc** Metacarbonate/marble (Paleozoic) – brown to dark brown, mm- to cm-scale chert layers are locally present
- Pq** Quartzite and phyllite (Paleozoic) – intensely fractured and altered quartzite and phyllite, yellow brown, red-brown, white, and gray
- Xg** Granitoid (Proterozoic) – mostly medium- to coarse-grained granite and granodiorite, intensely fractured but lacking mylonitic fabric, alignment of biotite locally defines a weak foliation, diabase dikes are locally common

Buckskin detachment fault

Lower plate units

- Tbi** Basaltic sill (early to middle Miocene) – brown, fine-grained, nonmylonitic; present along the KXm-Ppm₁ contact in the east portion of the map
- Pmm₃** Metasedimentary mylonite (Paleozoic protolith) – interlayered marble, calcareous quartzite, and siliceous marble
- Pmm₂** Metasedimentary mylonite (Paleozoic protolith) – tan, platy marble with minor quartzite layers
- Pmm₁** Metasedimentary mylonite (Paleozoic protolith) – interlayered marble, siliceous marble, calcareous quartzite, micaceous quartzite, and quartzite, metamorphic minerals include muscovite, biotite, chlorite, epidote, tremolite
- KXm** Layered mylonitic gneisses (Proterozoic to Cretaceous protolith) – dominantly cm- to m-scale layers of felsic granitoid mylonite with mafic biotite-hornblende-rich orthogneiss



Arizona Geological Survey
Contributed Map CM-14-B
November 2014

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