

GEOLOGIC MAP OF THE GALLETA FLAT EAST 7½' QUADRANGLE, COCHISE COUNTY, ARIZONA

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Arizona Geological Survey Digital Geologic Map 56
(DGM-56), version 2.0

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1:24,000 scale

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Map of the Galleta Flat East 7½' Quadrangle, Cochise County, Arizona:
Arizona Geological Survey Digital Geologic Map 56, v. 2.0 (DGM-56), 1 sheet,
layout scale 1:24,000, with text.

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Map Unit Descriptions

Other units

- Plowed areas - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
- Disturbed ground - stock tanks and ditches
- Quaternary hillslope talus and colluvium - colluvial deposits composed of angular to subangular cobbles and boulders that form at the base of bedrock slopes

San Pedro River alluvium

- Active river channel deposits - unconsolidated, very poorly sorted sandy to cobbly beds in active river channels
- Historical river terrace deposits - unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early historical floodplain
- Latest Holocene to historical river terrace deposits - silt, clay, sand and minor gravel deposits underlying the early historical floodplain
- Late Pleistocene river terrace deposits - thin (<2m thick) river terrace deposits composed of rounded to well-rounded gravels, cobbles, and finer-grained sediment found on ridge ends over strath basin fill deposits along the San Pedro River
- Middle to late Pleistocene river terrace deposits - deposits 1-2m above Q1r3 terraces found on scattered hilltops along the San Pedro River over strath basin fill deposits, typically unit Ts
- Early to middle Pleistocene river terrace deposits - deposits 2-3m above Q2r terraces found on scattered hilltops along the San Pedro River over strath basin fill deposits, typically unit Ts
- Pleistocene river deposits - a moderately thick sequence of coarse, poorly-sorted San Pedro River deposits and consolidated, moderately to well-sorted, channel conglomerates

Piedmont alluvium and surficial deposits

- Modern stream channel deposits - active channel and gravel bar deposits composed of very poorly-sorted sand, pebbles, and cobbles with some boulders to moderately-sorted sand and pebbles
- Latest Holocene alluvium - unconsolidated, very poorly sorted silty to cobbly low terrace and overflow channel deposits
- Late Holocene alluvium, active fan deposits - active portions of young fan deposits exhibiting distributary drainage patterns
- Late Holocene alluvium - young deposits in low terraces and small flood prone channels that are part of the modern drainage system
- Older Holocene alluvium - older Holocene terraces found at scattered locations along incised drainages throughout the study area, and isolated alluvial fans at the base of the piedmont
- Fine-grained Holocene alluvium derived from the St. David Formation - thin (< 2m) to discontinuous fine-grained Holocene alluvium overlying basin fill deposits (units Ts, QTcs)

- Late Pleistocene alluvial fan and terrace deposits - slightly to moderately dissected relict alluvial fans and terraces. Q3r terraces along major washes tend to be strath terraces in basin fill deposits with thin (<2 m) Q3r deposits on top
 - Middle to late Pleistocene alluvial fan and terrace deposits - moderately to highly dissected relict alluvial fans with strong soil development found throughout the map area
 - Early to middle Pleistocene alluvial fan and terrace deposits - deeply dissected relict alluvial fans that vary from rounded ridges to well-preserved fan surfaces of variable thickness, up to 4m, over basin fill deposits exposed in roadcuts and wash banks
 - Early Pleistocene alluvial fan deposits - deeply dissected relict alluvial fans found only on the upper piedmonts forming rounded ridges with no to weakly preserved surfaces
- Quaternary to Tertiary Basin Fill alluvium
- Late Pliocene to early Pleistocene fan gravel - coarse, moderately to well-consolidated gravely deposits of relict, deeply dissected alluvial fans with rounded ridges
 - Late Pliocene-Early Pleistocene relict basin floor deposits - extensive surfaces composed of carbonate-cemented sandstone and conglomerate with traces of reworked tephra to limestone at the top of basin fill piedmont fans in the southwest corner of the quadrangle
 - Pliocene-Pleistocene conglomerate - massive to crudely stratified, poorly bedded conglomerate interpreted as alluvial fan deposits shed into San Pedro River Valley from flanking bedrock hills and mountains.
 - Pliocene-Pleistocene conglomerate and sandstone - coarse, poorly sorted, tan sandstone, conglomeratic sandstone, and conglomerate deposits interfingering with QTc sediments in upper sections and Ts sediments near the base
 - Pliocene red sandstone, silty sandstone, and siltstone - massive to bedded, reddish brown (5YR to 10YR) sandstone, siltstone, and mudstone forming low-relief outcrops. Unit Ts correlates to the lower Saint David Formation of Gray (1965), and Smith (1994)

Bedrock units

- Mafic dike (Proterozoic to Tertiary) - dark, typically fine-grained dikes containing abundant plagioclase and hornblende and/or pyroxene
 - Johnny Lyon granodiorite (Paleoproterozoic) - equigranular to weakly porphyritic, medium to fine grained granodiorite or granite containing sparse quartz veins
 - Dioritic pendant in Johnny Lyon granodiorite (Paleoproterozoic)
 - Leucocratic granite associated with Johnny Lyon granodiorite (Paleoproterozoic)
 - Pinal Schist (Paleoproterozoic) - fine-grained quartz-feldspathic schist with faint to clear, 1-10 mm thick, light and dark laminations
- Mafic dike (Proterozoic to Tertiary)
— Quartz vein (Proterozoic to Tertiary)

Map Symbols

Contacts

- contact, accurately located
- contact, approximately located

Faults

- fault, approximately located

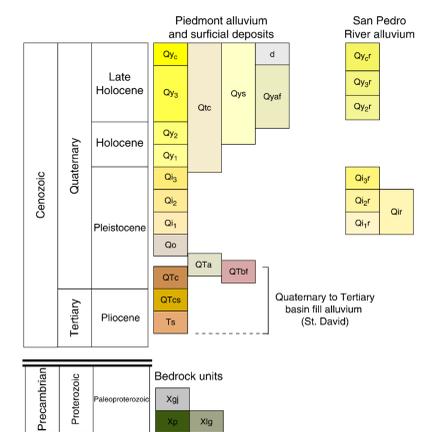
Definition of terms:

- *laminated** - indicates layering less than 1 cm thick
- *differentiated** - indicates segregation of minerals into layers
- *shape fabric** - indicates preferred orientation of flat or elongated minerals

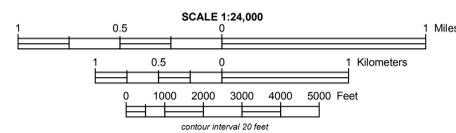
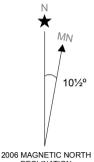
Structure Symbols

- protomylonite, normal sense of shear shown with arrow where present
- weak protomylonite
- strong protomylonite
- mylonite
- close disjunct (spaced) cleavage, inclined
- laminated differentiated foliation, moderate to strong shape fabric*
- minor fault attitude
- S-fold
- inclined joint
- foliation with lineation, where present
- apparent dip

Correlation Diagram



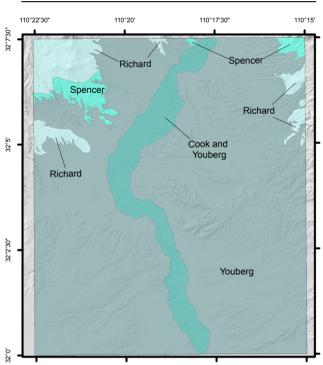
Topographic base from USGS 1:24,000 scale quadrangle series.
North American Datum of 1983 (NAD83). Projection and
1,000-meter grid. Universal Transverse Mercator, zone 12.



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Mapping Responsibility



Location Index Map

Quadrangle Location Shown in Blue



Cochise County

Mapped Area Shown in Blue



Adjoining 7.5' Quadrangles

