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

April 2009

1:24,000 scale

Citation for this map:
Youberg, A., Spencer, J.E., Richard, S.M., and Cook, J.P., 2009, Geologic 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.

(also available in Adobe pdf format on CD-ROM)

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Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under USGS award #02HQAG0016. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. government. The Arizona Department of Water Resources provided funding for map revisions depicted in DGM-56, version 2.0.

Acknowledgements:
Genevieve Pearthree was the cartographer for DGM-56, version 2.0.

Map Unit Descriptions

Other units

Plowed areas - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground

d — **Disturbed ground** - stock tanks and ditches

Qtc — **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

Qyf — **Active river channel deposits** - unconsolidated, very poorly sorted sandy to cobbly beds in active river channels

Qyf — **Historical river terrace deposits** - unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early historical floodplain

Qyf — **Latest Holocene to historical river terrace deposits** - silt, clay, sand and minor gravel deposits underlying the early historical floodplain

Qlf — **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

Qlf — **Middle to late Pleistocene river terrace deposits** - deposits 1-2m above Qi3f terraces found on scattered hilltops along the San Pedro River over strath basin fill deposits, typically unit Ts

Qlf — **Early to middle Pleistocene river terrace deposits** - deposits 2-3m above Qi2r terraces found on scattered hilltops along the San Pedro River over strath basin fill deposits, typically unit Ts

Ql — **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

Qyc — **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

Qy3 — **Latest Holocene alluvium** - unconsolidated, very poorly sorted silty to cobbly low terrace and overflow channel deposits

Qyaf — **Late Holocene alluvium, active fan deposits** - active portions of young fan deposits exhibiting distributary drainage patterns

Qy2 — **Late Holocene alluvium** - young deposits in low terraces and small flood prone channels that are part of the modern drainage system

Qy1 — **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

Qys — **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)

Ql3 — **Late Pleistocene alluvial fan and terrace deposits** - slightly to moderately dissected relict alluvial fans and terraces. Ql3 terraces along major washes tend to be strath terraces in basin fill deposits with thin (<2 m) Ql3 deposits on top

Ql2 — **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

Ql1 — **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

Qo — **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

QTa — **Late Pliocene to early Pleistocene fan gravel** - coarse, moderately to well-consolidated gravelly deposits of relict, deeply dissected alluvial fans with rounded ridges

QTbf — **Late Pliocene-Early Pleistocene relict basin floor deposits** - extensive surfaces composed of carbonate-cemented sandstone and conglomerate with traces of re-worked tephra to limestone at the top of basin fill piedmont fans in the southwest corner of the quadrangle

QTc — **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.

QTcs — **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

Ts — **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

md — **Mafic dike (Proterozoic to Tertiary)** - dark, typically fine-grained dikes containing abundant plagioclase and hornblende and/or pyroxene

Xgj — **Johnny Lyon granodiorite (Paleoproterozoic)** - equigranular to weakly porphyritic, medium to fine grained granodiorite or granite containing sparse quartz veins

Xdj — **Dioritic pendant in Johnny Lyon granodiorite (Paleoproterozoic)**

Xlg — **Leucocratic granite associated with Johnny Lyon granodiorite (Paleoproterozoic)**

Xp — **Pinal Schist (Paleoproterozoic)** - fine-grained quartzo-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

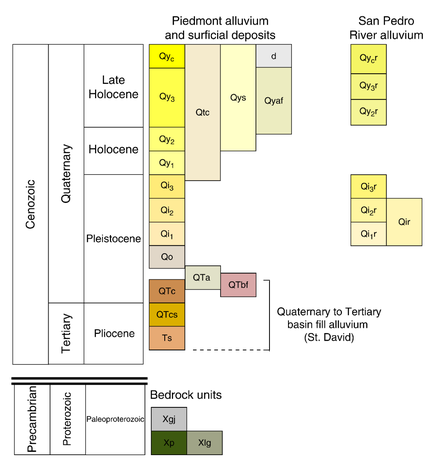
S-fold

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.

N
MN
10½°
2006 MAGNETIC NORTH DECLINATION

SCALE 1:24,000

1 0.5 0 1 Miles

1 0.5 0 1 Kilometers

0 1000 2000 3000 4000 5000 Feet

contour interval 20 feet

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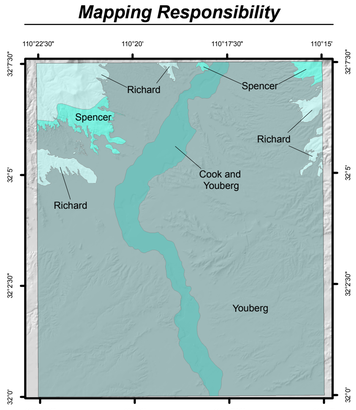
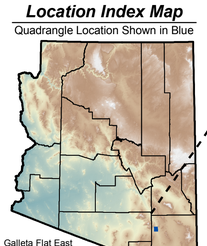
Mapping Responsibility



Location Index Map

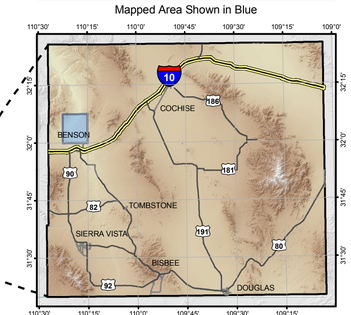
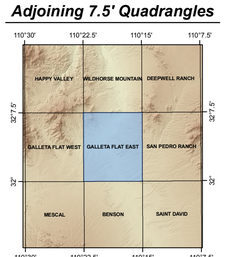
Quadrangle Location Shown in Blue



Galleta Flat East 7.5' Quadrangle is located in northwestern Cochise County.

Cochise County

Mapped Area Shown in Blue



Adjoining 7.5' Quadrangles