DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Miscellaneous Investigations Series Map I-1109
Database version 2.0
Sheet 2 of 2

Spatial Digital Database for the Tectonic Map of Southeast Arizona

By Harald Drewes, Digital database by Robert A. Fields, Douglas M. Hirschberg, and Karen S. Bolm
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UTM zone 12 projection, NAD 27 Datum, Clarke 1866 spheroid

LIST OF MAP UNITS

SURFICIAL DEPOSITS

- Qg - Gravel, sand, and silt (younger surficial deposits)
- Qd - Sand and silt (younger surficial deposits)
- Qp - Gravel, sand, silt and clay (younger surficial deposits)
- QTg - Gravel, sand, and silt (older or undifferentiated surficial deposits)
- QTgu - Gravel, sand, and silt (older or undifferentiated surficial deposits)
- QTb - Basalt (older or undifferentiated surficial deposits)
- Tuc - Upper conglomerate, gravel, and sand (older or undifferentiated surficial deposits)

IGNEOUS AND SEDIMENTARY ROCKS

- Tb - Basalt (upper igneous and sedimentary rocks)
- Tc - Conglomerate (upper igneous and sedimentary rocks)
- Tva - Extrusive andesite and dacite (upper igneous and sedimentary rocks)
- Tv - Extrusive rhyolite and rhyodacite (upper igneous and sedimentary rocks)
- Tug - Granitoid rocks (upper igneous and sedimentary rocks)
- Ti - Intrusive rhyolite and rhyodacite (upper igneous and sedimentary rocks)
- Ta - Andesite (upper igneous and sedimentary rocks)
- Tlc - Lower conglomerate, gravel, and sand (upper igneous and sedimentary rocks)

CORDILLERAN (LARAMIDE) IGNEOUS AND SEDIMENTARY ROCKS

- Tg - Granitoid rocks (uppermost Cordilleran (Laramide) igneous rocks)
- Tlp - Quartz latite porphyry (uppermost Cordilleran (Laramide) igneous rocks)
- Tlv - Lower volcanic rocks (uppermost Cordilleran (Laramide) igneous rocks)
- Tlg - Lower granitoid rocks (uppermost Cordilleran (Laramide) igneous rocks)
- TKp - Porphyritic and aplitic intrusive rocks (main Cordilleran (Laramide) igneous rocks)
- Kd - Diorite and quartz diorite (main Cordilleran (Laramide) igneous rocks)
- Kq - Quartz monzonite (main Cordilleran (Laramide) igneous rocks)
- Kg - Granodiorite (main Cordilleran (Laramide) igneous rocks)
- Kus - Upper sedimentary rocks (lower Cordilleran (Laramide) igneous and sedimentary rocks)
- Kr - Rhyodacite tuff and welded tuff (lower Cordilleran (Laramide) igneous and sedimentary rocks)
- Ka - Andesitic to dacitic volcanic breccia (lower Cordilleran (Laramide) igneous and sedimentary rocks)
- Kuvs - Volcanic and sedimentary rocks, undifferentiated (lower Cordilleran (Laramide) igneous and sedimentary rocks)
- Klq - Lower quartz monzonite and granodiorite (lower Cordilleran (Laramide) igneous and sedimentary rocks)
- Ks - Sedimentary rocks (lowest Cordilleran (Laramide) sedimentary rocks)
- Ki - Rhyodacite porphyry (lowest Cordilleran (Laramide) sedimentary rocks)

IGNEOUS AND SEDIMENTARY ROCKS

- Kb - Upper part of Bisbee Formation or Group, undifferentiated, and related rocks (Bisbee Formation or Group, undifferentiated)
- Kbu - Upper part of Bisbee Formation or Group, undifferentiated, and related rocks (Bisbee Formation or Group, undifferentiated)
- Kbg - Glance Conglomerate of Bisbee Group or Glance Conglomerate of Bisbee Formation
- Klvs - Andesitic to rhyolitic volcanic rocks, conglomerate, and sandstone (lower volcanic and sedimentary rocks)
- Jg - Stocks of pinkish-gray coarse-grained rock (granite and quartz monzonite)
- J'ki - Rhyolitic porphyry plutons, dikes, and sills (intrusive rocks)
- J'kvs - Rhyolitic tuff, welded tuff, lava, sandstone, and conglomerate (volcanic and sedimentary rocks
- 'km - Stocks of dark-gray very coarse-grained monzonite and quartz monzonite (monzonitic rocks)
- 'ks - Red mudstone, sandstone, and conglomerate, and intercalated rhyodacite volcanic rocks
- 'kvs - Rhyolitic to andesitic lava and pyroclastic rocks and intercalated sandstone, quartzite, and some conglomerate
- Pzs - Rainvalley Formation to Bolsa Quartzite, undifferentiated
- PPn - Rainvalley Formation, Concha Limestone, Scherrer Formation, Epitaph Dolomite, Colina Limestone, Earp Formation and Horquilla Limestone, undifferentiated (Naco Group)
- Ps - Sedimentary rocks of the Rainvalley Formation, Concha Limestone, and Scherrer Formation, undifferentiated (Naco Group)
- PPs - Sedimentary rocks of the Epitaph Dolomite, Colina Limestone, and Earp Formation, undifferentiated (Naco Group)
- Ph - Horquilla Limestone (Naco Group)
- MDs - Escabrosa Limestone and Martin Formation, undifferentiated
- OCs - El Paso Limestone, Abrigo Formation and Bolsa Quartzite, undifferentiated
- Cs - Abrigo Formation and Bolsa Quartzite, undifferentiated
- Yd - Diabase
- Ya - Dripping Spring Formation and Pioneer Formation (Apache Group)
- Yg - Granodiorite and quartz monzonite (granitoid rocks)
- Yw - Wrong Mountain Quartz Monzonite (granitoid rocks)
- Yr - Rincon Valley Granodiorite (granitoid rocks)
- Yc - Continental Granodiorite (granitoid rocks)
- Yt - Tungsten King Granite (granitoid rocks)
- Xj - Johnny Lyon Granodiorite (granitoid rocks)
- Xp - Pinal Schist
- Xi - Rhyolite porphyry

- Contact, dotted where concealed, queried where uncertain
- Contact, unspecified local marker horizon
- Contact, unspecified local marker horizon, concealed
- Contact, base of Mural Limestone where extensively exposed
- Contact, base of Mural Limestone, concealed
- Fault, unknown offset, dotted where concealed
- Normal fault, dotted where concealed
- Reverse fault, dotted where concealed
- Left-lateral strike-slip fault, dotted where concealed
- Left-lateral strike-slip fault with normal motion, dotted where concealed, dashed where approximate
- Left-lateral strike-slip fault with reverse motion; dotted where concealed
- Right-lateral strike-slip fault, dotted where concealed
- Right-lateral strike-slip fault with normal motion, dotted where concealed
- Thrust fault; dotted where concealed, teeth on upper plate
- Glide fault; dotted where concealed, teeth on upper plate
- Reactivated fault; dotted where concealed, teeth on upper plate
- Anticline, dotted where concealed
- Anticline, overturned
- Syncline, dotted where concealed
- Syncline, overturned
- Ti - intrusive rhyolite and rhyodacite - plugs, laccoliths, and dikes
- Tlp - quartz latite porphyry - plugs, breccia pipes, and dikes
- Tkp - porphyritic and aplitic intrusive rocks
- Kg - granodiorite - stocks of gray, medium-grained, locally porphyritic rock
- Aplite dikes
- Local tuff marker beds in upper conglomerate, sand and gravel unit (Tuc)
- Maar crater
- Paleoplaya boundary
- Political boundary, state, national, and international
- Map boundary (lines of latitude or longitude)

- Horizontal bedding
- Inclined bedding
- Vertical bedding
- Overturned bedding
- Inclined foliation
- Vertical foliation
- Lineation
- Dip of fault
- Collection site, query mark to left of symbol where precise location uncertain
- Cinder cone, queried where uncertain
- Plunge of fold axis

Reference

Drewes, Harald, 1980, Tectonic map of southeast Arizona: U.S. Geological Survey Miscellaneous Investigations Series Map I-1109, 2 sheets, scale 1:125,000.

Arizona

Index map showing map location (sheet 2 shaded)

SCALE 1: 125 000

5 0 5 MILES

5 0 5 10 KILOMETERS

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Digital files are available on World Wide Web at http://geopubs.wr.usgs.gov/i-map/i1109

The digital database is not meant to be used or displayed at any scale larger than 1:125,000 (for example, 1:24,000 or 1:100,000).

Geology compiled and mapped by Harald Drewes (1980).
Digital database by R.A. Fields (USGS); D.M. Hirschberg (University of Arizona), and K.S. Bolm (USGS) assisted by W.N. Kelley (Information Systems Support, Inc.), and S.R. Munts (Information Systems Support, Inc.).

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