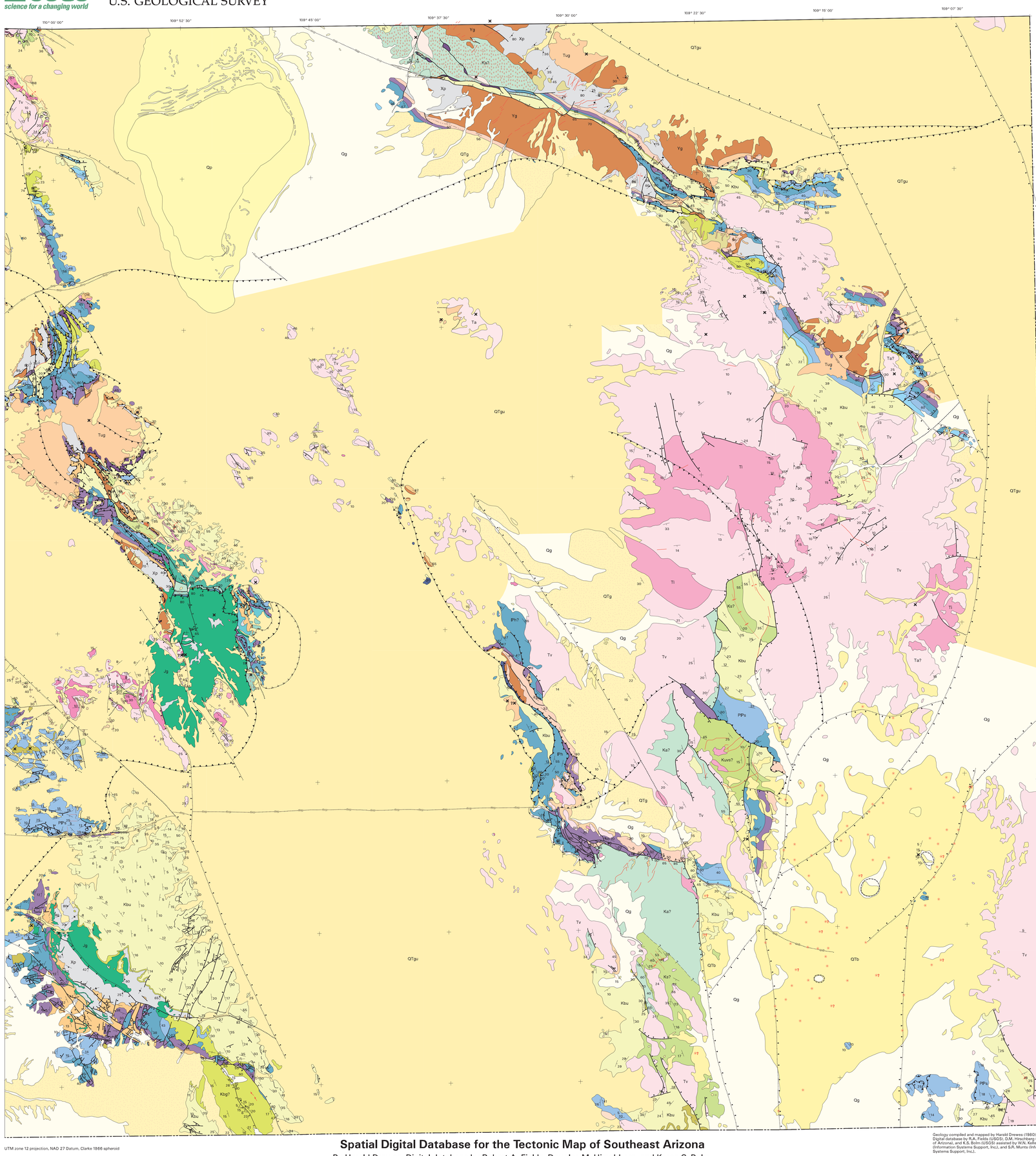
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Miscellaneous Investigations Series Map I-1109
Database version 2.0
Sheet 1 of 2



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)
- Kl - 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?i - Rhyolitic porphyry plutons, dikes, and sills (intrusive rocks)
- J?vs - Rhyolitic tuff, welded tuff, lava, sandstone, and conglomerate (volcanic and sedimentary rocks
- T?m - Stocks of dark-gray very coarse-grained monzonite and quartz monzonite (monzonitic rocks)
- T?s - Red mudstone, sandstone, and conglomerate, and intercalated rhyodacite volcanic rocks
- T?vs - 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.

This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map. Scale also varies between plotters and may need to be adjusted.

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).

Index map showing map location (sheet 1 shaded)

SCALE 1: 125 000

5 0 5 MILES

5 0 5 10 KILOMETERS

UTM zone 12 projection, NAD 27 Datum, Clarke 1866 spheroid

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

2002

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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