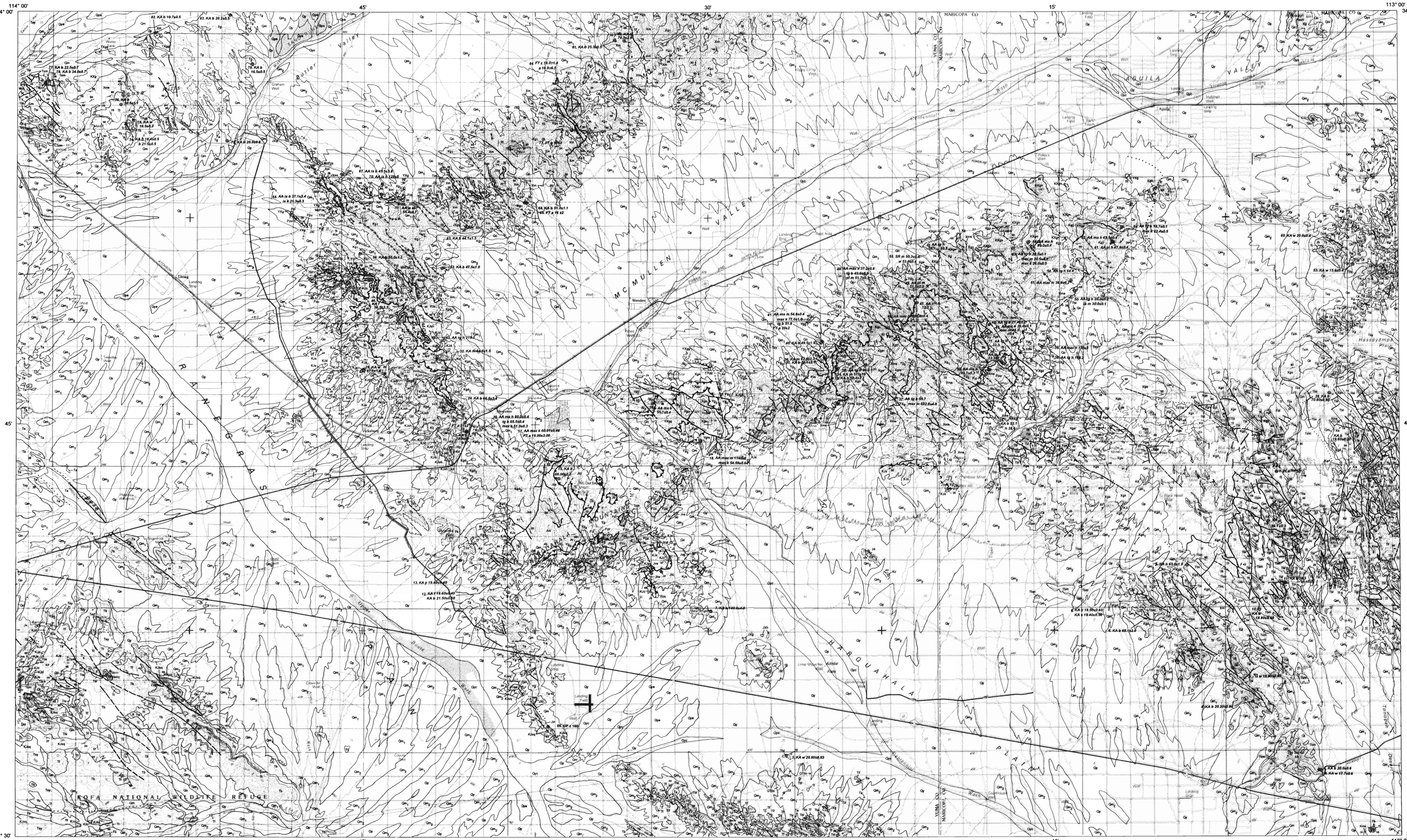

GEOLOGIC MAP OF THE SALOME 30'×60' QUADRANGLE, WEST-CENTRAL ARIZONA

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Scale 1:100,000

0 2 4 6 8 MILES

500 0 10000 20000 30000 40000 FEET

1 0 1 2 4 6 8 10 KILOMETERS

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EXPLANATION

SYMBOLS

PLANAR FEATURES; strike and dip

Broken and wavy lines may be used to indicate approximate measurements or curvilinear foliation in conjunction with any symbol

Bedding

upright vertical overturned horizontal

Tectonic foliations

Generic foliation, with lineation — Disjunct cleavage — Gneissic foliation

Tectonite foliation — Mylonitic foliation (with lineation indicated) — Flow foliation in igneous rocks

Dikes (outcrop trace)

Mafic (Tim) — Intermediate (Ti) — Felsic (Tif) — Pegmatite (Kg) — Old mafic (JYd)

CONTACTS

Solid lines indicate precise location, dashed lines approximate location, dashed with queries very approximate, and dotted inferred beneath younger blanketing or intrusive units.

intrusive or depositional contact

FAULTS

HIGH ANGLE (ball on down-thrown side, arrow indicates dip)

low-angle normal fault, ticks on hanging-wall

detachment fault, ticks on hanging-wall

thrust fault, barbs on hanging-wall

MISCELLANEOUS

Tie line joining regions underlain by same map unit

Map Units

Numbered subunits (e.g. Kg2) on map are explained in the accompanying text.

Qs Undivided surficial deposits. *(Quaternary)*

Qyc Active alluvium. *(Holocene)*

Qye Eolian deposits. *(Holocene)*

Qy Young Alluvium. *(Holocene and late Pleistocene)*

Qt Talus. *(Holocene and late Pleistocene)*

Qm Middle alluvium, undifferentiated. *(Late to middle Pleistocene)*

Qm_y Younger middle alluvium. *(Late to middle Pleistocene)*

Qm_o Older middle alluvium. *(Middle Pleistocene)*

Qo Older alluvium. *(Middle to early Pleistocene)*

QTbx Breccia and Rubble. *(Quaternary or Tertiary)*

Tertiary sedimentary and volcanic units

Tsy Younger sedimentary rocks. *(Pliocene or Miocene)*

Tsl Lacustrine sedimentary rocks. *(Miocene)*

Tsm Sedimentary rocks. *(Miocene)*

Tbu Upper basalt. *(Miocene)*

Ttu Upper felsic volcanic rocks. *(Miocene)*

Tf Felsic volcanic rocks. *(Miocene)*

Tbx Megabreccia and sedimentary breccia. *(Miocene)*

Tbm Middle basalt unit. *(Miocene)*

Tb Basalt, undifferentiated. *(Miocene or Oligocene)*

Tbl Lower basaltic volcanic rocks. *(Miocene or Oligocene)*

Tt Ash flow tuff and tuff. *(Miocene or Oligocene)*

Tts Tuff and associated sedimentary rocks. *(Miocene or Oligocene)*

Ta Andesite. *(Miocene or Oligocene)*

Tertiary intrusive rocks

Ti Hypabyssal Intrusive rocks. *(Miocene or Oligocene)*

Tif Felsic intrusive rocks. *(Miocene or Oligocene)*

Tim Mafic to intermediate intrusive rocks. *(Miocene or Oligocene)*

Tg Granitoid. *(Miocene or Oligocene)*

Cretaceous and Jurassic intrusive rocks

Kg Leucocratic granitoids *(Cretaceous)*

Kgd Hornblende-biotite granodiorite units *(Cretaceous)*

Kd Dioritic border phase. *(Cretaceous)*

KJgd Granodiorite. *(Cretaceous or Jurassic)*

KJd Hypabyssal mafic rocks. *(Cretaceous or Jurassic)*

Jg Granodiorite or monzogranite. *(Jurassic)*

Mesozoic and Paleozoic supracrustal rocks

Kc Conglomerate. *(Cretaceous)*

KJc Conglomerate. (Cretaceous or Jurassic)

KJsh Fine-grained clastic rocks. *(Cretaceous or Jurassic)*

KJsq Quartzite, quartzite cobble and maroon mudstone. *(Cretaceous or Jurassic)*

KJs Sandstone. *(Cretaceous or Jurassic)*

Jvs Sedimentary rocks derived from volcanic rocks. *(Jurassic)*

Jv Volcanic rocks. *(Jurassic)*

MzPzs Sedimentary rocks, undivided. *(Mesozoic and Paleozoic)*

J'Rs Buckskin and Vampire Formations, undivided. *(Jurassic or Triassic)*

Pzs Sedimentary rocks, undivided. *(Paleozoic)*

Pzu Upper Paleozoic sediments, undivided: *(Permian and Pennsylvanian)*

Pzl Lower Paleozoic sediments, undivided. *(Mississippian through Cambrian)*

Proterozoic igneous and metamorphic rocks

Ygm Muscovite granitoid. *(Middle Proterozoic)*

Yg Middle Proterozoic granitoid. *(Middle Proterozoic)*

YXg Porphyritic granodiorite. *(Middle or Early Proterozoic)*

YXgm Muscovite granitoid. *(Middle or Early Proterozoic)*

YXgg Deformed granitoid and augen gneiss. *(Middle or Early Proterozoic)*

XYgs Foliated biotite granitoid and pelitic gneiss. *(Middle and Early Proterozoic)*

Xg Granitoid. *(Early Proterozoic)*

Xgm Hydulite leucogranite and pegmatite. *(Early Proterozoic)*

Xm Metamorphic rocks, undifferentiated. *(Early Proterozoic)*

Xgn Heterogeneous gneiss. *(Early Proterozoic)*

Xga Mixed granitoids and amphibolite. *(Early Proterozoic)*

Xms Pelitic metasedimentary rocks. *(Early Proterozoic)*

Xma Mafic gneiss. *(Early Proterozoic)*

Xa Mafic to intermediate metavolcanic rocks. *(Early Proterozoic)*

Xgs Sunset Pass complex. *(Early Proterozoic)*

Xgg Auger gneiss. *(Early Proterozoic)*

Phanerozoic or Proterozoic crystalline rocks

TXgg Crystalline rocks. *(Tertiary, Cretaceous, and Proterozoic)*

KXg Granitoid rocks. *(Cretaceous through Proterozoic)*

KXgd Gneissic to unfoliated granitoid. *(Cretaceous, Jurassic, or Proterozoic)*

KXgn Quartzo-feldspathic to amphibolite gneiss. *(Cretaceous, Jurassic and Proterozoic)*

JYd Hypabyssal mafic rocks. *(Jurassic or Middle Proterozoic)*

JXg Undivided granitoid rocks. *(Jurassic or Early Proterozoic)*

JXh Hypabyssal rocks: *(Jurassic or Early Proterozoic)*

JXi Granitoid and gneiss. *(Jurassic or Early Proterozoic)*

JXl Leucogranite. *(Jurassic or Early Proterozoic)*

JXmi Mixed orthogneiss and paragneiss. *(Jurassic through early Proterozoic)*

Acknowledgments

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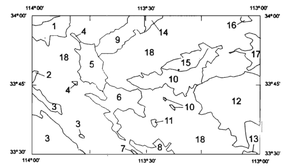
Sources of mapping

1. Spencer, J. E., and Reynolds, S. J., 1990, Geology and Mineral Resources of the Bouse Hills, La Paz County, west-central Arizona: Arizona Geological Survey Open-file Report 90-9, Tucson, 1 sheet, 21 pages , scale 1:24000.
2. J. E. Spencer, unpublished mapping, 1985 and 1993.
3. Sherrod, D. R., Koch, R. D., and Grubensky, M. J., 1990, Geologic Map of the Vicksburg quadrangle, La Paz County, Arizona: U. S. Geological Survey Geological Quadrangle Map GQ-1684, scale 1:62500., with revisions from Richard, S. M., and Spencer, J. E., 1994, Geologic map of the Ramsey Mine area, southern Plomosa Mountains, Arizona: Arizona Geological Survey Open-file Report: Tucson, scale 1:12000.
4. Spencer, J. E., Richard, S. M., and Reynolds, S. J., 1993, Geology of the northwesternmost and southwesternmost Granite Wash Mountains: Addendum to Arizona Geological Survey Open-file Report 89-4: Tucson, 5 pages, scale 1:24000.
5. Reynolds, S. J., Spencer, J. E., Laubach, S. E., Cunningham, D., and Richard, S. M., 1991, Geologic map and sections of the Granite Wash Mountains, west-central Arizona: Arizona Geological Survey Map M-30, Tucson, scale 1:24000.
6. Spencer, J. E., Richard, S. M., and Reynolds, S. J., 1985, Geologic map of the Little Harquahala Mountains: Arizona Bureau of Geology and Mineral Technology Open-file Report 85-9: Tucson, scale 1:24000.
7. Grubensky, M. J., and Demsey, K. A., 1991, Geologic map of the Little Horn Mountains 15' quadrangle, southwestern Arizona: Arizona Geological Survey Map M-29, 1 sheet, 10 pages, scale 1:62,500.
8. Spencer, J. E., Richard, S. M., and Ort, M. H., 1993, Geologic map of the western Eagletail Mountains, La Paz County, Arizona: Arizona Geological Survey Open-file Report 93-12, Tucson, 1 sheet, 11 pages , scale 1:24000.
9. Reynolds, S. J., and Spencer, J. E., 1993, Geologic map of the Western Hieroglyphic Mountains, La Paz County, West-Central Arizona: Arizona Geological Survey Open-file Report 93-8, Tucson, 1 sheet, 9 pages, scale 1:24000.
10. Richard, S. M., 1989, Bedrock Geology of the Harquahala Mountains, West-central Arizona: Mesozoic Shear Zones, Cooling, and Tertiary Unroofing [Ph. D. Dissertation]: Santa Barbara, California, University of California, 230 p., and unpublished mapping 1988-1991.
11. Spencer, J. E., Richard, S. M., and Reynolds, S. J., 1993, Geology of Lone Mountain, southern Little Harquahala Mountains: Addendum to Arizona Geological Survey Open-file Report 85-9, Tucson, 2 pages, scale 1:24000.
12. Stimac, J. A., Richard, S. M., Reynolds, S. J., Capps, R. C., Kortemeier, C. P., and Grubensky, M. J, Geologic Map and Cross sections of the Big Horn and Belmont Mountains,West-central Arizona: Arizona Geological Survey Open-file Report 94-15: Tucson, 3 sheets, 16 pages, scale 1:50000.
13. Ort, M. H., and Skotnicki, S. J., 1993, Geologic Map of Saddle Mountain, Maricopa county, Arizona: Arizona Geological Survey Open-file Report 93-6, Tucson, 1 sheet, 11 pages, scale 1:24000.
14. Drewes, H. D., DeWitt, E., Hill, R. H., Hanna, W. F., Keepper Jr., D. H., Tullin, S. E., Reynolds, S. J., Spencer, J. E., and Azam, S., 1990, Mineral resources of the Harcuvar Mountains Wilderness Study Area, La Paz County, Arizona, U. S. Geological Survey Bulletin 1701, 29 p.
15. S. M. Richard, Ed DeWitt, S. J. Reynolds and J. E. Spencer, unpublished mapping 1987- 1991.
16. S. J. Skotnicki, unpublished mapping, 1993.
17. Grubensky, M. J., 1989, Geologic map of the Vulture Mountains, west-central Arizona: Arizona Geological Survey Map M-27, Tucson, 3 sheets, scale 1:24000.
18. Demsey, K. A., 1988, Quaternary geologic map of the Salome 30 × 60-minute quadrangle, west-central Arizona: Arizona Geological Survey Open-file Report 88-4, Tucson, 1 sheet , scale 1:100000.



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